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486SX-25	N/A $1[illegible]	N/A $1[illegible]	N/A $2116	N/A $[illegible]	[illegible] MHz
486SX-33	N/A $1[illegible]	N/A $[illegible]	N/A $2170	N/A $[illegible]	116 MHz
486DX-33	$[illegible] $2135	$[illegible] $2001	$[illegible] $[illegible]	$2799 $2774	116 MHz
486DX/2-50	$2121 $2171	$[illegible] $[illegible]	$[illegible] $2419	$2799 $2811	152 MHz
486DX/2-66	$[illegible] $2811	$[illegible] $[illegible]	$[illegible] $[illegible]	$[illegible] $3[illegible]	220 MHz
Pentium DX-60 dual scan, 8 mb	N/A	N/A $[illegible]	N/A $[illegible]	N/A $[illegible]	347 MHz
Pentium DX-66 dual scan, 8 mb	N/A	N/A $5[illegible]	N/A $[illegible]	N/A $5[illegible]	380 MHz

Upgrade mono to dual scan passive matrix colour	$[illegible]
Upgrade mono to active matrix colour	$1[illegible]
Upgrade Pentium dual scan to active matrix colour	$1[illegible]
Upgrade 340 to 500 mb hard drive	$[illegible]
Upgrade each mb of RAM	$[illegible]

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486DX-33	4 mb	250 hd	$1440	$1466	$54/mth
486 50	4 mb	250 hd	$1216 (Cyrix)		N/A
486DX/2-50	4 mb	250 hd	$1481	$1532	$55/mth
486-66	4 mb	250 hd	$1368 (Cyrix)		N/A
486DX/2-66	4 mb	250 hd	$1[illegible]	$1[illegible]	$[illegible]/mth
Pentium DX-60	4 mb	250 hd	N/A	$2[illegible]	$84/mth
Pentium DX-66	4 mb	250 hd	N/A	$2419	$88/mth

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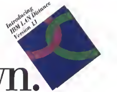

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Virtual Mean Streets

While scanning the news wires
I came across this item.

From the Editor

eWorld Bucks Online Anonymity Trend

CUPERTINO CA (NB) — Newspapers over the past year have covered a number of abuses that occur on online services because of the anonymity of users' identifications. However Apple's new eWorld is planning to virtually remove such user anonymity.

While online service providers always have the power to admonish or disconnect a user who is reported to violate the terms of agreement or "netiquette," the administrators of Apple's new eWorld have decided that members will choose between the use of their first name and last name, or first name initial and last name.

The use of anonymous names will still be possible online but any member may click on a profile and read a person's registered name. According to the company, real online identities will encourage responsible behaviour and be "more conducive to the business environment that eWorld is designed for."

Online abuses identified by Apple include such behaviour as "flaming," which involves aggressive, hateful abusive and/or libelous electronic-mail and online postings to groups, "mail bombs," which include mass mailings and flooding of mail centers and individual mailboxes "stalking," which includes following and tracking the comings and goings of a specific individual and "any unwanted and suggestive advances of a sexual nature or harassment of any sort."

These complaints have long been a problem for all online providers, most of whom have specific procedures to deal with it. Internet is the most difficult to control because one can easily change identities and sign-on with other providers. As these electronic communities grow the identifying and shunning of abusive individuals is claimed to be a strong self-policing technique.

Small Town, Safe City or Urban Metropolis — Where do you want to live?

I am beginning to see how the Internet, commercial online services (such as Compuserve, America Online and GEnie) and the more homegrown Bulletin Board Systems (such as CRS in Toronto and Mindlink in BC) will continue to co-exist in the electronic world of a couple of years from now. In the past few months so much has been said about the Internet, that I found myself believing that the Internet would be the only thing left within a matter of months. After watching my kids interact with it, as well as their favourite local BBS's, I realised that they each have a place in an electronic future.

The Internet lacks a central authority or even marketing department and often seems too big a place to get comfortable. It is vast, relatively unorganized, unfriendly and often unappealing to the casual telecommunicator. I gave my kids the keys to the Internet, and at this point anyway, they have turned up their noses at it; they would rather talk to their friends on their local BBS. I find myself enjoying the convenience of world wide e-mail on the Internet, but reluctant to spend the hours sorting where the good stuff is.

Local BBS's often provide more of a close knit community of shared values than do the much broader commercial services or the Internet. The analogy of a small town where everyone knows everyone else could be applied to a smaller BBS. The size of the town might vary from 20 to 30 individuals all the way up to tens of thousands. The next big jump is to the commercial services where the membership numbers are in the hundreds of thousands. Finally the Internet is a metropolis that has millions of subscribers. Continuing the town, city and metropolis analogy, we see that it is possible to seek out smaller communities of individuals even within a city or metropolis by staying within certain interest areas.

A license to be rude

One of the problems of life on the Internet as noted by the Newsbytes piece above about eWorld (no it won't be available in Canada for a while) is a lack of politeness by a few individuals. The Internet consists of a conglomeration of computers spun together into a diverse net of people. Such a group sometimes lacks shared values and since there is no real central control to police how people treat each other the result is that sometimes "flamings" or verbal attacks happen between people. Like an unrefereed hockey game the results are not pretty.

Remailers hide flamers

It is relatively easy to sign up with a variety of commercial connection providers, some of whom are not so diligent about identifying their users. Truly nasty people can change their identity at will. If you want to get really secretive, you can use a "remailer," an Internet logon site that will pass on your messages but not your identity. (One such site is "anon@penet.fi" an infamous site in Finland.) Truly secretive individuals might use a series of remailers to prevent anyone tracking them down. From this position of electronic disguise, they feel secure in flaming or attacking other people on the net.

Stick to the knitting

In contrast, most BBSes are close knit places, where often everyone knows everyone else, or at least has seen their name once in a while. Most of the dialogue seems to be conducted in enlightened tones because they know they are likely to run into each other again. The sysops keep an eye on the dialogue and deal with complaints when they come up. They maintain standards about the types of files that can be uploaded and downloaded. Most are concerned these days about being charged with pornography infringements or copyright software violations. The tide seems to be turning against the free-wheeling approach of the early days of BBSing. Some still maintain adult areas, but to get onto it you have to prove that you are an adult. While their systems don't provide government-grade security, they actually telephone you to confirm you are who you say you are.

The middle ground

Commercial services like Compuserve, GEnie and America Online, take the middle ground.

➤

Mailbox

HP Ink Jet Printers Clarification

Clarification is needed on several issues raised about Hewlett-Packard printers in Frank Garcia's recent article "The Ink Jet Prescription," appearing in the May 1994 issue. In describing the output from a HP DeskJet 560C printer Mr. Garcia states that one color cartridge is used to produce all colors including black. He states that because of this feature "sometimes the black comes out brown." This occurrence is, in fact, impossible due to the fact that the printer uses two cartridges, not one. A color cartridge containing three primary colors is used to produce a range of colors while a second cartridge is dedicated to printing black output.

Mr. Garcia also recommends the HP Portable. Readers should be aware that HP's most recently announced portable printers are the DeskJet 310 for PC users and the DeskWriter 310 for Macintosh users. In addition to standard black output, both printers offer color capability.

—GB

Ink Jet Redux

Frank Garcia's article, "The Ink Jet Prescription" in your May issue was most timely and well-documented. Research by BIS Strategic Decisions, of Norwell MA shows a 400 percent increase in sales of the color ink jet printers between 1991 and 1992. Their projections indicate that by 1995, color ink jet printer sales alone will exceed both dot matrix and monochrome jet printer sales. Why shouldn't they? The capital costs are similar.

The real cost of these printers, however, is the cost of ownership. Where ribbon printers added at most, a fifth of a cent to the cost of a print, the jet printers can go over 20 cents for graphics. As one might expect, the OEMs presented this in an optimistic light — Typically "500 prints at 5 percent coverage." But these 500 prints would have to be short business letters, with few bold characters and a minimum of graphics. The average 7"-by-10" ad in your journal, for instance, might cover 25 percent or more of its area with ink. So 100 such prints would use the complete BubbleJet BC-01 cartridge and be rated at about 24 cents each.

Twelve cartridges doing such graphics — which is why most people bought the printers — will exceed the cost of the entry-level jet printer. Many users therefore consider refilled cartridges.

Of course, printer manufacturers always have the old standby — "We'll void the warranty if you recycle cartridges."

Most established suppliers of refill kits for jet printers resolved this hassle several years ago. In the case of remanufactured powder toner cartridges, by offering to assume any warranty liability connected to their work. Our company, for instance has never had such an invoice presented, and extends the same protection to Jet Printer refills.

John Connolly, general manager,
Image Control, Toronto

From The Editor

Continued from page 6

The system administrators try to walk the delicate line between maintaining decorum while avoiding to many infringements on people's privacy. They usually have more telephone lines, staff, downloadable files, searchable text and a better user interface than most BBS's, so they are a good choice if you prefer a slicker look.

Your choice

Different levels of familiarity and security in the electronic world provide a diverse environment to choose the kind of virtual world you want to create for yourself. If you want to span the globe in search of new and exciting friendships, you can. If you want to get to know the people in your own small town, there is probably a BBS out there waiting to help you do it. City folk should check out the well patrolled streets of Compuserve, GEnie or America Online. Ultimately, they will all be connected to each other via e-mail anyway.

Enjoy the issue

Douglas Alder
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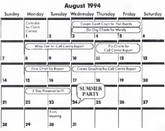

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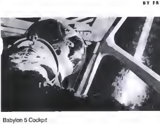
MEDIA CONVERGENCE

Babylon 5 Airs On Computer Networks

BY FRANK GARCIA



Babylon 5 Cockpit
Courtesy of PTEN/Warner Brothers

Babylon 5 is one of the hottest science fiction television shows on television today employing state-of-the-art computer generated special effects.

Created by Executive Producer J Michael Straczynski, and backed by Warner Brothers Television Babylon 5 first appeared in February 1993 with a 2-hour pilot titled "The Gathering," which garnered an Emmy for special effects Reaction was so good that Warner Brothers OK'd 22 episodes for a full first season and the first episode aired last January In fact, the pilot is also up for a Hugo the literary science fiction award to be announced at the Worldcon in Winnipeg, this September

Fans of this show will be pleased to hear that the show has been renewed for a second season and shooting begins anew in mid-July The balance of the first season episodes will air between now and the end of October, with the second season beginning in November

B5 chronicles the life and times of Jeffrey Sinclair as he commands a space station serving as sort of a United Nations clearinghouse in a violent galactic universe where humans and alien ambassadors mingle and where machiavellianism reigns B5, in addition to extensively presenting computer generated images (CGI), also gives us elaborate and wildly creative makeup, sets, costumes and characters to tell the story of the five year saga that's been percolating in the mind of Joe Straczynski for the last seven years

When *Babylon 5* came to the attention to Jim Moloshok who's Senior Vice President of Marketing and Advertising Services at Warner Brothers, he had the idea that publicizing the show via the computer Internet would be a valuable way to create word of mouth and visibility for potential viewers of the television show

"The biggest problem in launching a new television show is many times a show goes on the air (and) people doesn't know it exists! The computer networks have been very important to the success of *Babylon 5*," says Moloshok. "First, it was a 2-hour made for TV movie There were a lot of conversations on various networks; Internet Compuserve, America Online and lots of other smaller nets."

The chatter on the nets was very much noticed by the creators of the show and by executives at Warner Brothers In fact, to craft ideas and to attempt to improve on *Star Trek* and other similar space shows creator Straczynski toured SF conventions and set up accounts on Compuserve GEnie and other computer networks and communicated directly to the fans He polled what people hated in science fiction shows and what they wanted to see

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"I don't know when he sleeps but all night long, he's on the net with people," says Moloshok. "After the movie, there was a lot of feedback of what people liked and what they didn't like and what elements they thought he should change to make the show more realistic. People on computer networks played a very important role in helping to shape the show as it presently exists. They are more inclined to like science fiction than the general public. We find the index to be a little higher with those people."

> "People on computer networks played a very important role in helping to shape the show as it presently exists."

Straczynski has also generously contributed writings to the networks describing his vision of the show's five-year history and sketching events and characters he wants to present. Once, Straczynski needed names for a mega corporation and a mineral and went to the nets for suggestions and received titles which he used on the show.

To give something in return for enthusiastic feedback, Moloshok says they created a Babylon 5 Interactive program on Macromind Director for the Mac and for Windows.

"This interactive kit we created is not only informative, but sort of fun to play with. I've gotten a lot of E-mail from around the world from people reacting to it. It's not just an advertising piece or a promotion piece; it's a fun to play with. We also gave it to local TV stations and to newspapers. It's really a different way of marketing a television show. I think it's the first time this kind of advertising has ever been used to market a television show."

Internet users know that messages and files travel the width and breadth of the world. Moloshok says that he's gotten E-mail from parties interested in the show — who have not yet even seen it — from as far away as Austria, Turkey, Scotland and Japan. "It's airing internationally and is available on home video internationally," he says.

The Babylon 5 Interactive is a self-running application. The user clicks on the program icon and the app dives into a screen of B5 graphics and sounds "uplinking" to the Main Menu.

The Main Menu offers four areas to explore: Babylon 5 Station, Ambassadors, The Makers and Alliances.

Babylon 5 Station
Courtesy of PTEN/Warner Brothers

Clicking on the B5 Station option brings the screen to three items: Launch Fighter, The Crew or Technical. Launch Fighter literally does that. A short film clip runs launching the fighter into the jump point. The Crew are simply text scrolls and photos describing the history of the leading characters in the drama and a further click reveals the actors' biographies. Technical brings up a graphic of the station and a 'slider' which is manipulated by the mouse which 'scans' for special areas of the station, such as the alien

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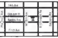

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sector, living quarters, docking & customs and the observation dome.

Pulling back to the Main Menu, on the Ambassadors option, there are photos of each of the four ambassadors and again text scrolls of the characters and the actors behind the elaborate makeup visages on the show.

The Makers are detailed text scrolls on the creative artists responsible for the show.

Clicking on Alliences headshots appear for each important member of the station and if the user clicks on two boxes between characters, the program will reveal a relationship or in some cases, an 'unknown' relationship. Alliances is also where the program's second short film clip is located. If you choose Ambassadors Londo and G'Kar, you'll be treated with a film snippet of a dream sequence from the series' first episode where Londo wanted to kill G'Kar. And in this film clip G'Kar screams in agony.

When you exit, the program will 'disconnect' and bring you back to your HD. B5 Interactive requires 2MB of memory to run.

Another product deposited at various Internet and commercial network sites is Digital Trading Cards.

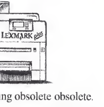
Moloshok acknowledges the popularity of trading cards with this special set of GIFs, pictures of the cast and shots of specific episodes of the show decorated with fancy B5-tinged graphics and fonts.

"Each one has a number and a little fact on what the photo is about. There are 20 cards all together. The idea is for people to E-mail back and forth saying, 'I have cards number 1, 3, and 8, does anyone have 5 and 7?'

"This is a 1990's way of exposing the show and creating word of mouth so people can look at this stuff."

B5 is probably the only current-running television show to make use of the Internet as a promotions tool. Sure, there's lots of *Star Trek* and even *Star Wars* material floating around, with B5 the Warner Brothers corporation has made available these items for the die-hard fans and computer freaks to lap up. And now, the fans themselves are creating documents.

Continued on page 14



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The Stellar SFX of *Babylon 5*

Babylon 5 boasts razzle-dazzle, way cool feature film quality special effects (SFX).

BY FRANK GARCIA

Vorlon
Courtesy of PTEN/Warner Brothers

When the pilot aired in February last year, it won an Emmy award for Best Visual Effects on television.

To complete the effects for a series of 22 episodes (not to mention pushing the special effects envelope even wider), it was necessary for folks at the Valencia, California-based company Foundation Imaging to boost the processing power they had on the pilot for the series.

Babylon 5 SFX is created with a collection of Amigas using NewTek's Video Toaster technology.

Eight networked Amigas were used to generate spaceships and the 'authentic' zero-gravity space battles for the pilot. For the series, that was upgraded to 22 networked Amigas, giving them superior processing power to better meet the demands of any scenario or request that the writers and producers of the show could imagine. Specifically, in the pilot the server was a 3-gigabyte server while the series sports a 15GB server.

The reason the SFX is so fresh and innovative is it's done completely inside the computer

The reason the SFX is so fresh and innovative is it's done completely inside the computer, with none of the miniature models or time consuming matte and compositing work used on previous shows such as *Buck Rogers*, *Battlestar Galactica* or on the *Star Wars* films. This is called computer generated imagery or CGI for short. Special effects today have advanced to a point where three dimensional modeling can be rendered inside the computer and then output to film.

Foundation Imaging uses the Toaster's Light Wave 3D for an object's perspective and, via texture mapping, to give spaceship surfaces their distinctive looks (the details on the B5 station, for example).

"What you have is a fully equipped production studio inside your monitor," Paul Biegle Bryant, FI's Network Specialist told Cinefantastique magazine. "All the facilities are inside. Our set for B5, electronically speaking, is five kilometers across. The space station has been scaled a half kilometer. You

Continued on page 15

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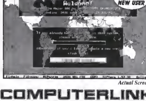

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Babylon 5 on Networks

Continued from page ***12***

Deposited at various FTP sites (which we published last issue) are GIFs Episode Guides Frequently Asked Questions (FAQ) lists and Electronic Press Kits And these materials — as all things in the Internet tend to be — are often spread from the initial sites to many other sites, traveling from user to user

According to a B5 Frequently Asked Questions list there are allegedly as many as 100 GIFs available at the ftp Hyperion com site But Moloshok says that, at most WB deposited somewhere between 30 to 50 GIFs. Any others would have been created by fans

The B5 FAQ list answers many detailed questions a fan may have about the show A copy of a B5 FAQ that was pulled from the World Wide Web runs 18 pages FAQ lists are generally available for many cult TV shows, such as *seaQuest*, or *Quantum Leap*, at various FTP Internet sites, and they are often compiled by fans of that show

The B5 episode guide became available on GEnie in December, 1993 and was revised for January 1994 — before the show had even aired! It accurately lists in fairly good detail the titles, synopses, guest stars and directors for all 22 episodes in this season Never before has a series guide been as widely available in such detail before the show has aired.

'That was not posted by us,' says Moloshok 'There are a lot of fans of the show and of bulletin boards who work at TV stations that carry the show A lot of people have access to material that they're able to upload — We're delighted when someone does because all it does is help the show'

News travels fast The Warner Brothers V P recalled an insstance when "I saw a [TV] station list on one of the [computer] networks for our show It reflected a sale that was only made not even a day before I saw the list So whoever was doing it the information was quite accurate!'

There are also other assorted documents such as the B5 Actors Other Roles list, the B5 List of Lists by Mark Holtz (who's famous for other Lists of Lists), the B5 Grid Epsilon Log (detailed info and backstories and character profiles posted by J M Straczynski) GEnie and Usenet postings by Straczynski, a Technical FAQ and of course a history of Ancient Babylonia

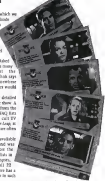
Merchandising for the show is being handled in house by Warner Brothers Consumer Products One of the licences in development of interest to computing enthusiasts and B5 viewers in particular is that Compton NewMedia is assembling a B5 CD-ROM

"Initially, it's going to be a disk that summarizes the show with background information," reveals Moloshok. "They'll have storylines and elements created specifically for the CD-ROM.

'You haven't seen a lot of products initially because with so many television shows coming and going, a lot of companies don't licence materials unless it gets picked up for at least a second season

"If they [merchandise products] when the show first goes on the air, the show can be canceled and gone and then all this is on the market so they'd like to see it picked up for a second year'

Forthcoming merchandising includes a B5 video game from Genesis and a comic book from DC Comics



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Lastly a piece of B5 trivia seeps through during this interview which shows how much foresight is being put into the show: the reason that the main titles are in the letterbox format is because it's a preparation for the High Definition TV format.

"We are producing it so eventually we can transfer and reformat the film to High Definition TV," reveals Moloshok.❑

SFX of Babylon 5

Continued from page **13**

can move lights or objects anywhere within that space."

In the 1987 production *Captain Power and the Soldiers of the Future,* Visual Effects designer Ron Thornton, producers John Copeland and Doug Netter and executive producer J. M. Straczynski explored the possibilities of digital 3-D CGI with the villainous Soaron, a minion of the Lord Dread. Soaron was Dread's hunting dog who flew throughout the land ready to destroy Captain Power and his band of freedom fighters. As far back as 1987, while working on this show, Joe Straczynski had *Babylon 5* bouncing in his head.

Thornton's work is even more groundbreaking when you realize the working budget for each episode including the SFX is less than the 1.2 million to 1.5 million that Paramount's *Star Trek: The Next Generation* had for each of their episodes. In fact, Thornton told us, "You have to bear in mind that *Babylon 5* is a low-budget show. We're averaging $700,000 to $750,000 per episode. We are continually looking for ways to squeeze more out of it."

It's fair to say that computer graphics have reached a plateau where almost anything a writer imagines can now be done as a three-dimensional image on screen

The reason why CGI is fast becoming popular and may soon make modelmakers obsolete is that it eliminates time-consuming model construction of not just spaceships but anything else that needs to appear in the same frame with the spaceship. For example, if the script asks for 200 ships to exit from the jump point and head towards the station, traditional techniques would require designers to build every different ship and then composite them together into the scene. Each element they want in a scene would have to be created, shot and added separately. George Lucas had the luxury of enough money, time and manpower to build his galaxy, but in television there's none of that. Both *Battlestar Galactica* and *Buck Rogers* had generous networks footing the bills but *Babylon 5* doesn't need to rely on a large budget to create a universe.

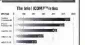
For *Babylon 5,* in-computer modeling allows Thornton to assemble a smaller crew and create whatever he wants inside the computer and layer elements on top of each other. As an added bonus, he can manipulate and experiment with each element to his heart's content — at no added cost — until he's happy.

Using a five-step process, Thornton first drafts the objects for a scene and then lights the scene. After this there's a technical direction stage, a rendering stage, and a final compositing to tape or film stage.

The *Babylon 5* station, if it were done on traditional SFX filming, would have taken six technicians working with materials six weeks to complete, but Thornton did it all himself on CGI in two weeks. Here's another perspective: for the pilot, 80 shots were created at one-fourth the cost of using conventional means such as used in *Star Trek: The Next Generation.*

It's fair to say that computer graphics have reached a plateau where almost anything a writer imagines can now be done as a three-dimensional image on screen. It's like animation. If there's anything you can think about, it can be drawn. So powerful are today's capabilities that in an upcoming *Gnil* with guest star David Warner, look out for Ambassador Kosh (the big guy wearing a curtain) to reveal himself and be prepared to gasp, because he will be a CGI character.

The future of CGI has been scratched. It's rumored that in the upcoming *Star Wars* film that George Lucas plans for 1997, special effects will be rendered via CGI. Because it's all on a big 70mm film, the effects for that will have to be a higher quality than what we're seeing today on television. The mind boggles.❑



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Re-inventing Hollywood

Tinseltown Embraces Siliconia

Excerpts from Multimedia: Gateway to the Next Millennium
a book from AP Professional scheduled for release in July

BY JOYCE SCHWARZ

By the year 2015, Hollywood as we know it in the '90s may undergo a change so profound that its impact will be equivalent to the advent of "talkies," television and home video combined.

A major paradigm shift in Hollywood film, television and video production is evolving, powered by new technologies in computers, digital film, compact discs, interactive multi players and new delivery systems, including fiber optic cable

To most of Hollywood multimedia is still a computer "nerd" term However mention the phrase "interactive" and talk bottom line numbers and you've captured a share of the more adventurous Hollywood dealmakers and their Silicon Valley counterparts

According to Joe Miller Sega of America's senior vice president, the interactive business toted revenues of US$4 5 billion last year rivaling the theatrical box office numbers of $5 2 billion

The interactive business has garnered not only a financial niche but also new respect as Hollywood studios form their own divisions and begin to produce multimedia product to complement box office hits

Speaking at Hollywood's ShoWest industry trade confab Columbia pictures Chairman Marc Canton said, "In the future we won't just see the movie, we will interact with it feel it, play it and ride it He also added that without significant improvement in the way theaters present movies and a much greater commitment to making quality entertainment and more diversified films, the theatrical business as Hollywood knows it could be replaced by the end of this decade

So is it any wonder that in May 1994 20th Century Fox became the last major studio to form an interactive division? Paramount and Universal announced similar divisions in 1993 Universal came out with its first release, "Jurassic Park" in spring, 1994 on the 3DO platform

Warner, Sony and Disney have had new media, computer software and interactive divisions for several years producing and licensing products for various platforms In April, 1994 MGM surprised the entertainment and computer industries by signing a co-production deal with Sega of America Inc to produce television shows, games and movies

To date, however major studios and traditional Hollywood have not been able to rival the success of independent game developers such as Acclaim and Electronic Arts which generate about $500 million a year As Jeff Berg, head of ICM's talent and literary agency said publicly recently, "Sega and Nintendo last year outgrossed the motion picture industry And that's just two companies"

Studios want their "fair share" and more of the burgeoning multimedia marketplace and see other potential money making arenas in "edutainment" (education and entertainment intertwined) and "infotainment (entertainment oriented information presentations) for homes schools, work places and public spaces.

Multimedia and its byproducts may literally create an electronic landscape that brings the glittering touch of Hollywood to all aspects of our lives

For almost 100 years, film has reigned supreme in the kingdom of tinseltown For the past 50 years consumers have lived in the "age of television" Videocassette tapes and cable enhanced these powerful formats rather than replacing them in the marketplace

Between 1992 and 1994, a virtual cinematic multimedia panorama of technological and creative developments began to bridge the gap between Hollywood and Silicon Valley Every day, stories about new technological advancements and multimedia deals abound in Hollywood film and trade papers But it is stars and films that will continue to advance the medium to the big moneymaking level Hollywood is best known for producing

The "star power" of multimedia continues to heighten weekly as slates of new products featuring stars are announced.

High rated "TV Q" (a measure of television audience recognizability) names on or coming to your computer screen or set top box include Jason Hervey ("The Wonder Years" currently starring as the evil Troll Leader in Activision's "Return to Zork.")

Such action heroes as Wesley Snipes and Sylvester Stallone filmed extra footage of "Demolition Man" for Virgin Interactive's 3DO version of the movie Of course, many Virgin aficionados have "met" Donald Sutherland, as a former KGB agent who fights evil, corruption and lies in "Conspiracy"

Sega has attracted its share of stars too — Deborah Harry the former Blondie rocker stars in Double Switch for Sega CD Lots of stars' voices can be heard via sound blasters in the game world on such projects as the CD-ROM version of "Gabriel Knight Sins of the Fathers" where you can hear Tim Curry, Mark Hamill Michael Dorn (from Star Trek New Generation fame) and Efrem Zimbalist Jr.

Other stars you'll find on upcoming CD-ROMS include Brian Keith, Margot Kidder Grace Zabriskie Kirk Cameron, Hulk Hogan, Chris Lemmon, and even super model Carol Alt.

For the most part, multimedia's featured actors have been unknown or little known performers And many develop their own following in the "game" or "cinematic experience" arena Robert Hirschboeck, a well known Shakespearean actor has captured many new media fans as the evil mansion owner in Trilobyte/Virgin's "The 7th Guest" and "The 11th Hour" Video games have served as a connecting point between the

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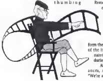
"Old Hollywood" and the "New Hollywood."

The boundaries of Hollywood's landscape have fast forwarded beyond what even digital animators could fathom. The "New Hollywood" is developing not just hundreds of miles north of Los Angeles in Silicon Valley or San Francisco's multimedia gulch, but across the United States and around the world. The impact of this, nationally and internationally, is almost impossible to measure but the media is certainly forecasting a fascinating future.

In what *Business Week* magazine is terming the "entertainment economy", Hollywood will become more a state of mind than a place in any particular country or state.

The Wall Street Journal called this new vision "Hollywired" in its special National Association of Broadcasters (NAB) spring 1994 supplement. And Northern California pundits referred to their arena as "Sillywood" chidingly thumbing their digits at the potential merging of Hollywood and Silicon Valley on one hand and on the other signing alliances and deals that may or may not materialize.



The entertainment economy and the best of the "New Hollywood" are contributing to new prosperity in pockets across the country. From Branson Mo. to Las Vegas to Orlando to Shea Stadium, Disney, Blockbuster, Matsushita's MCA, Paramount and Viacom have broken ground for a staggering array of theme parks, theaters, casinos and ballparks. It's estimated that more than $13 billion in big entertainment projects will be in the pipeline by the mid 1990s, with more planned.

Will couch potatoes accept the new media in every walk of life on the road to the electronic highway? Yes. If Hollywood has anything to say about it. Hollywood will use its star power to dominate the 500 channels, move into prominence in the games world and claim a strong stake in the new arena of location-based entertainment.

Remember. Hollywood has a century of experience on its side. Early film pioneers like Edison tinkered in laboratories and their early "flickers" were destined to fascinate only a privileged few. It took marketing prowess and creative genius combined with technical innovation to form the building blocks for the ivory towers of the Hollywood studios that have dominated the world's entertainment market during the past century.

At most multimedia industry conferences, moderators seriously announce "We're all here looking for the next Chaplin." For like early Hollywood, today's multimedia world is led by great innovators who are designing today's on ramps to the new electronic highways of tomorrow.

The Lure Of Multimedia

In the early '90s the venerable trade paper *Variety* started to cover the technology beat with a regular column. *The Hollywood Reporter* published its first special interactive media supplement.

Financial analysts swarmed like bees learning new buzzwords at the new media trade shows. And a new "gold rush" fanned excitement in San Francisco's multimedia gulch, where a flurry of fledgling multimedia companies began to paint a new landscape dotted with developers and high definition pixels.

Still, many Hollywood executives, producers and directors were skeptical at best and oblivious at worst. When this researcher called the top studios and networks in preparation for a special book, *Multimedia 2000* for the National Association of Broadcasters prepared in Spring, 1993, the most frequent answer to the question "who handles your multimedia?" was "what is multimedia?" and the second was "you need to talk to our MIS" department or our "computer people."

Those were the days when if you said "CD" the first thing a Hollywood mogul thought was that it was time to roll over his $50,000 certificates of deposit, and television anchors were voicing amazement about the rise of the CD-ROME (sic) market. And many Hollywood VIP's thought that a CD-I was a music compact disc personalized (like a license plate), not the compact disc interactive multiplayer then being launched by Philips in Blockbuster's 2,000 stores nationally.

Even today, confusion abounds about the difference between multimedia, new media, virtual reality and 500 channels. And if you're not a member of IICS (International Interactive Communications Society) or signed up for the new media expos, don't read *Multimedia Week* or *WIRED* or a post production journal like *Film & Video* or *In Motion* or the Hollywood trades and *Byte* magazine and *Personal Computing* and aren't in a SIG group (special interest group) on line on Prodigy or America Online or a subscriber to the newly popular "Hollywood On-Line", you may still be waiting for more visible signs of a multimedia revolution. Dollar deals in multimedia are figured in hundreds and thousands, not millions like Hollywood studios thrive on.

We're all here looking for the next Chaplin

For many on the "cutting edge of multimedia", the new world is as open as the Wild West. If you work for Introvision or ILM or Iwerks or Rhythm & Hues or Pacific Data Images or at Kodak's all digital Cinesite

Continued on page 24

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Authors on Computers

Who Uses What and Why

BY FRANK GARCIA

When crackerjack lawyer/novelist John Grisham (The Firm, The Pelican Brief) *started out writing, the brick house he was living in was so cramped that the computer was between the washer and dryer.*

As novelist Arthur C. Clarke completed *2010: Odyssey Two*, his long-anticipated sequel to *2001: A Space Odyssey*, he sent the manuscript from his home in the remote country of Sri Lanka as a 5.25 inch disk to his publishers in New York.

Later during the filming of the feature film adaptation of the novel written and directed by Peter Hyams Clarke in Sri Lanka assisted the director in Los Angeles via computer modem. The correspondence became the book *The Odyssey File* (Del Rey/Ballantine, 1985). It is ironic that Clarke and Hyams would exchange ideas and collaborate in this new-fangled way because Arthur Clarke is credited for inventing the geosynchronous orbit where satellites beam their data communications to the ground. This orbit is now officially recognized as The Clarke Orbit as a result of a journal paper Arthur wrote in the 1940s.

And did you know that authors Michael Crichton (*Jurassic Park, Congo*), Tom Clancy (*Hunt for Red October, Clear and Present Danger*) and film critic Roger Ebert all profess to be Apple Macintosh fanatics? Plus director/actor Ron Howard writes on a Powerbook.

For many who use computers the first software item on the shopping list is invariably a word processor. And from there, we handpick our favorites so we can pound out those correspondences or write that ground breaking Canadian novel we've always wanted to write. But what are the professionals, the ones who have chosen writing as their career using and if they are using a computer, are they happy with the state of technology?

Many journalists novelists or poets are today writing with equipment that have been the stuff of science fiction for centuries: without pen and paper and now with sophisticated computer systems and high end word processors. Because computers today are so inexpensive, and affordable for the average homeowner anyone can use a computer to write.

But there are also many who refuse to use them.

Novelist film critic and screenwriter Harlan Ellison works with an Olympia Typewriter for him the ultimate tool.

"I use a manual typewriter, not one of these cockamamie word processors these blendmasters," Ellison said on Knowledge Network's *Prisoners of Gravity*. "You pour words into it, blend it to make it better. I sit at a typewriter and I do the work there. I feel the pounds of energy going into it. I belong to my work. It's the intimate of my hands on those keys. And I like being connected to my readers in that way. I don't like any mechanical crap in between us."

Harlan Ellison is one of the few authors who claims that he works out his writing as fully as possible in his head and then he pounds on the keys. As a result, seldom does he revise his work.

Ellison also told Vancouver journalist Michael Dean that "I wouldn't have an electric (typewriter) in the house much less a PC. I think they're the devil's playthings that are mostly used by idiots for doing idiotic jobs but that's another of my cheery little thoughts."

Ian Slater, local author and UBC English professor has stayed with wood as his equipment of choice and so far has resisted in using a computer.

"I use a pad, pencil and an eraser," says Slater. "It's transferred to a word processor later. My wife does that. But for writing I write directly on the paper and then I transcribe it to a tape recorder and the tape recorder is transcribed to a word processor."

Slater, author of *World War III*, says he wants hard copy immediately and this is the systemthat has worked best for him. For revisions his wife generates the hardcopy and he edits that and then it's back to the computer for fine tuning.

Unfortunately several years ago while paying a visit to the beach the manuscript for Slater's 1990 novel *Forbidden Zone* was snatched from his vehicle and was never recovered. This forced Slater to take six months to rewrite the story "pretty much from scratch", as no electronic version was ever made. "You can still have your laptop stolen too," he quips.

If there's any complaint about writing equipment, Slater says, "The mystery is why people are so bent on a computer in the first place. When you're writing a novel, a fairly quick novel, two thousand words a day would be a good day to work. Two thousand words a day you don't need to type fast. You don't need to have it done quickly. Two thousand words is about 10 pages of handwritten material. The wonderful thing about writing with pencil and paper is it's very portable in ways even a laptop isn't."

But what some resist others embrace. Columnist for Vancouver's daily tabloid *The Province*, teacher and novelist Crawford Kilian says computers help him create his work.

"I don't know how I produced anything before them," says Kilian. "Nonfiction (both

➤

columns and books) is far easier to produce and revise, fiction is a little trickier but even there it makes life much easier. For example, I'm republishing two of my old (pre-computer) novels with Beach Holme in Victoria, once I'd keyboarded them onto my hard drive revising the manuscript was a snap."

Shoeless Joe's maker and White Rock's resident author William Kinsella, has been using computers since 1984 but he very candidly admits that he just looks at them as 'a fancy typewriter.'

Unlike Spider Robinson who does everything on his word processor "all I use it for is to type letters and scripts," says Kinsella. "I still write first drafts in longhand and revise as I go to the word processor and that's pretty much the final draft."

Kinsella recalls being at the mercy of carbon copies for many of his novels and credits computers for giving him the freedom to print as many crisp copies as he wishes. His last two or three novels were tendered solely by computer disk, he says. "I can essentially get rid of my copier machine now."

Resisting the move up from just penning his work or banging on typewriters was a long struggle for him. "I felt that way for the longest time."

However, to this day, Kinsella says, "I don't want to know anything. I want a fancy typewriter. I'm not interested in learning anything about it."

Award-winning Fantasy novelist and head of the Writers Society in Burnaby, B.C., Eileen Kernaghan says that she began writing at six years old with a pencil.

"When I was 12 I got a typewriter and used it all the way up until seven years ago when I got a computer," says Kernaghan. "With a typewriter I wrote four novels.

"I was intimidated about the idea of using a computer, because I was so used to typewriters. I thought it was a gimmick or something. But when I did get it, I worked on a book project with filmmaker Jonathan Kay called *Walking After Midnight*.

"I could not possibly have done this book without a computer, not in the three months that I had to do it in. There was an enormous amount of editing and revising."

Making that big transition from pen and paper to typewriter and then to those big plastic computer boxes sometimes is not as easy as one may think. "I'm not intimidated by it anymore, I don't think. I'm now being intimidated by a modem! That's the next step for me. The whole information highway — I haven't got my drivers' licence for that yet," says Kernaghan.

Kilian cheekily notes that "the computer has many of the qualities of a toy (as computer users' wives have been quick to note)." But he also admits that he was a little intimidated at the start of making that move up.

"It's a big leap after using a typewriter all those years," says Kernaghan. "On a typewriter you think directly to the keys, but on a computer it's a completely different situation. You're brain doesn't work. It's hard to get your subconcious working. That took a while. As with a lot of people, I was [writing] on the typewriter and then putting it on the computer. Of course, after a while, you say, 'This is ridiculous! I can't go on doing this.'"

It was only after practiced experience on the computer that she was able to become comfortable with it.

"A lot of people still write in longhand first because they have a better relationship with a pen and paper. And when you sit down with new technology which is typing onto a screen instead of a piece of paper you don't immediately sign in on the screen. It's like an impediment.

"Bill Gibson [The science fiction 'cyberpunk' Vancouver author] talks about this too, about how it takes a while. If you do work on a computer, I have found it doesn't take very long to get that relationship with a computer screen so I can think straight on the screen.

"I know that Mary Choo [a Richmond, B.C. poet] still writes on a typewriter and then puts it into a computer. Finally in the last month or so she declared her first story directly to a computer screen.

"I could not write on a typewriter now," laughs Kernaghan. "I find that impossible. I can't go back to it!"

Killan, an instructor at Capilano College's InfoTech program in Vancouver, praises computers for helping him in other ways.

"Teaching writing with the use of a computer and a projection pad is also far easier and more effective — the class can see the changes I make and compare different versions."

Killan's interview was obtained, appropriately, via a computer bulletin board that he frequently visits. Although he's no longer writing for *The Province*, he has deposited text files of his weekly Education column inside a Writers Forum conference, in the First Class BBS Revelation for feedback from readers.

In fact, Killan has also deposited 10 "How To" Writing documents for perusal by

Continued on page 35

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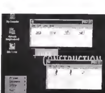
PREVIEW

Microsoft Windows 4.0

A Hands-on Report

BY GRAEME BENNETT



Chicago brings a radical new look to Windows

Microsoft says that it would like to see fewer messages on your next computer's startup screen, too. To that end it has been working on reinventing the PC experience. Later this year, Microsoft plans to release its next version of Windows — code named "Chicago" — which it hopes will be user friendly enough to open up the world of DOS-based PCs to a whole new audience. This ease of use, the company hopes, will reduce the cost of PC deployment in businesses, and provide the operating system facilities for the next generation of software applications.

Imagine if you
turned your television
on and saw messages
like these scrolling by :

"Tube warming up"

"Picture tube made by..."

You might wonder whether it's an anachronism to use the words "friendly" and "DOS" in the same sentence. Well, you're right. Chicago won't require DOS. And if things go the way Microsoft envisions them, PCs of the future will automatically configure hardware add-ons, finally creating a "no excuses" standard for PC hardware.

The Way We Were

Let's face it, today's PCs are critically weak in a number of areas. It is a hassle to add new devices, uninstall software, configure networks — you name it. And are there any "multimedia PC" owners who *haven't* tried to run the latest, greatest game, only to be frustrated by an out-of-memory error imposed by DOS' 640K limit? Even launching a word processor is unduly difficult for beginners. In fact, Microsoft did a number of studies, and found that, even with the "easy to use" Windows 3.x, complete novices took nine minutes just to figure out how to launch a word processor.

Best Face Forward

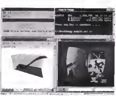
For Chicago, Microsoft completely redesigned the look and feel of Windows. The most prominent new feature is the strip along the bottom of the screen. When you first start up the program, an animated "Click here to begin" icon slides across the bar and points you to a pop up box where your programs and the 15 most recently used documents are stored. Frankly, we'd be surprised if there were any novices who couldn't figure out how to launch Windows Write in a couple of minutes at the most with this kind of dummy help.

This strip, called the Task Bar, is used for more than getting new users up and running, however. Microsoft says that, during its usability testing of Windows 3.1, it discovered that only 24 percent of experienced users switched between maximized applications with the Alt-Tab key combination. In Chicago, the names of running apps show up in the Task Bar, which is visible (and movable) at all times. A single click on an application's name in the Task Bar switches to it.

In use, it's not unlike changing channels on a TV. The Task Bar is similar in some ways to the Icon Dock of the NeXTstep OS, although Chicago allows the bar to be slid off the screen, resized or moved around at will — things that are not possible with NeXT's OS.

The NeXT similarity shows up in other areas, too. As a matter of fact, it appears that Microsoft took a long look at all of the best features of other operating systems when it was designing Chicago. Overall, the GUI is something of a cross between Mac and OS/2, with a dash of NeXTstep thrown in.

In our opinion, Chicago has a better user interface than Macintosh or OS/2. As a matter of fact, the Mac's much vaunted "Finder" is starting to look decidedly long in the tooth compared to either of its PC competitors. Like OS/2, Chicago is a true pre-emptive multitasking operating system. (Yes, we know that OS/2 already does almost everything Chicago promises.) We'll discuss the system architecture in "What Color is Your Underwear?" following this article. As well, both OS/2 and Chicago offer a significantly improved graphical user interface over that of Windows 3.x. While there are certain areas where each OS outshines the other, the most important distinctions between the two products are in the area of user interface and device support. However, we're not convinced that Chicago will offer a significant benefit to OS/2 aficionados. They already have an operating system that addresses many of the shortcomings of DOS. Windows 3.x/DOS users, on the other hand, may find much to like. In fact, we expect more than a little interest from Mac users, too.



Chicago provides better multi tasking. An important consideration for multi-media users

Continued on page 34

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Hollywood

Continued from page **18**

then you see daily the impact multimedia has on both bottom lines and on meeting tight schedules.

Despite all the hubbub about multimedia it was only when the terms interactive television and interactive movies started to be used by the media that traditional Hollywood started to begin to understand what these "platforms" were about

But in the post production departments of studios and at post-production houses around Hollywood and across the nation in the early 1990s it became apparent that multimedia was big and getting bigger

According to analysts the interactive multimedia industry will swell to some $10 billion by the end of this decade

Ten years ago, in the days before notebook PCs, VGA graphics fax modems, 2400 bps modems and desktop publishing — when the Mac was still vaporware and much of Hollywood was still using Selectric typewriters, and some executives still hired secretaries based on their legs and dictation skills — 80 percent of all post production for television was done on film Today 90 percent of it is done on tape.

Most Hollywood studios didn't even get PCs until 1988 Yes there were a few first generation 8086/88 systems around but those were in the MIS departments or left to the mavericks like Robert Abel, a renowned renegade in the world of special effects noted for designing some of the best scenes for "Star Wars" and more Techies were for the most part left outside the studio gates Many studios had long ago disbanded their cohesive in house production departments and films were obtained on negative pick-ups produced outside by independent producers.

If you saw the film "Chaplin", you know that there were many naysayers when talkies first came to Hollywood too. While some people rambled nonstop two years ago about the wonders of Quadras and the mystery of "multiple platforms" only about 40-60 percent of Hollywood was even computer literate, according to industry consultant Ray Solley of The Solley group "But that s better than the average consumer base where 99 percent of the homes have television but about only one quarter have computers (now it s 34 percent) "

In some areas of Hollywood like music and post production computers invaded earlier MIDI was developed in the early 1980s as an industry standard Todd Rundgren was out with an early audio CD constructed in multilayer segments which home listeners with CD-I or with CD-ROM players could manipulate Now NARAS (National Association of Recording Artists) produces its own Music and Multimedia sold out day long seminars

Former ITS (International Teleproduction Society — the people who own most of the post-production facilities) President Linda Rheinstein said the largest part of multimedia until this year was basically post perhaps that's why people are becoming increasingly high tech oriented."

A report called "Creating Multimedia Hollywood Goes Digital" by Volpe Welty & Co. a San Francisco based investment banking firm caused some waves and brought their analysts to the forefront as predictors of the future The report forecast that the Hollywood post-production market would increase by 16 percent or more than $3.5 billion in the next three years and that the market would zap up to 825 000 customers—more than 10 times the current post client numbers Volpe analyst Charles Finnie was quoted as saying that he believed that trend alone would rewrite the rules for Hollywood s post community

A good example of that change was the fact that Industrial Light and Magic (ILM) did its Oscar-quality special effects for "Death Becomes Her" on a Silicon Graphics Inc workstation that sells for less than $100 000 "People aren't going to be able to spend $1 million on a single machine in the future" Rheinstein predicted

But post houses were not the only ones embracing multimedia during the past three years Commercial production companies were making "moving storyboards" with it directors and camera operators were editing their reels, set designers and art directors were "walking through" their 3-D designs in advance and photographers were creating interactive photo CD s. Stock film archives books, works of music children's stories and more were being developed on CD And of course the world of special effects was being forever changed by its entwining with multimedia and computer generated effects. ❑

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PREVIEW

What Color is Your Underwear?

Exploring the Architecture of Windows 4.0

BY GRAEME BENNETT

A Kick in the OS

The Computer Paper recently had the opportunity to test Microsoft's next release of Windows — code-named Chicago — at the company's Redmond, WA headquarters. We came away impressed with the product's user interface design, and its underlying system architecture.

What? Have we turned into mindless Microzombies, touting the vacuous virtues of vapourware? Based on the robustness of the prerelease version (known as a "late beta" in programmer's parlance), we'll go out on a limb and say that this product (which is expected to be in widespread "field testing" by the time you read this and is slated for general public release later in the year) represents the most important product ever for the Redmond giant. Why? Well, for starters, it sure looks like DOS is doomed. Microsoft spokespersons wouldn't say if there will even **be** another release of DOS, although it was speculated that a stripped down version of Chicago, sans graphical interface, would be the most likely candidate for an MS-DOS 7.0 release, if their customers demand one.

Microsoft is backing away from DOS because Chicago provides true pre-emptive multitasking, much as OS/2, Windows NT, Unix, AmigaDOS, and NeXTstep do. This, by the way, promises to leave Apple's Macintosh in the unenviable position of being the only major computer platform not to support pre-emptive multitasking as a standard operating system feature.

What Color is your Underwear?

Yeah, yeah, we know — most people give as much thought about whether their system is cooperatively or preemptively multitasking as they do about what color their underwear is. Fair enough, but we think it safe to say that few users will ever want to go back to a non multitasking OS after they've tried one that provides the benefits of printing, copying files, telecommunicating, formatting disks, networking, and so on, in the background. If you're like most users, you'll soon wonder how you ever got along without multitasking.

Okay, so you're still skeptical. So were we. After all, OS/2 2.1 multitasks at least as well as Chicago, and it is pretty darned compatible with existing Windows and DOS apps. How much better could Chicago's compatibility be?

Chicago appears to have a considerable edge over OS/2 (and NT, for that matter) in the area of compatibility with existing device drivers.

Basically, they all work. OS/2 and NT, on the other hand, require all new device drivers, and as such, can't use a great many cards and devices on the market today.

Although it smacks of marketing hyperbole, Microsoft says its design goal for Chicago was nothing less than total compatibility. Because of this, Chicago isn't completely free of some of the hassles

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Many of the reviews are based on the same US OEM product marketed under a different name

caused by the demonic duo CONFIG.SYS and AUTOEXEC.BAT. Nevertheless, Chicago doesn't need either file to run, and if Windows apps don't need 'em, you won't either.

Microsoft is encouraging developers to make applications "Chicago savvy," by putting the sort of info that used to clutter up WIN.INI, SYSTEM.INI and our aforementioned boot time pals into a new Chicago structure known as The Registry. Although the name implies that it is a single file, it actually consists of several files maintained and automatically backed up by the system. Instead of requiring users to don their propeller beanies and edit these INI files with a word processor though, Chicago provides a registry editor called RegEdit (perhaps Microsoft programmers haven't noticed that they have more than eight characters to play with now).

Microsoft is also encouraging developers to include a standard Uninstall function, to make it easier to restore a previous system configuration. We'll attempt to scare developers into doing this now by advising you, dear readers, to only buy software that provides an "Uninstall" option. You can thank us later.

Chicago's Best Features (the ones we predict you'll come to adore)

- 255-character filenames
- Greatly improved user interface
- True preemptive multitasking
- Doesn't require DOS

Chicago's "Beast" Features (the ones we predict you'll come to hate)

- The Registry, AKA the monster INI file from Hell
- The Explorer (it's better than FileMan though)
- The way the Toolbar covers up stuff

Areas in which the Mac OS (System 7) Still Whips Chicago

- Installing and Uninstalling software
- Copying and configuring user preferences
- Adding multiple video displays or hard disks
- Running on RISC processor
- System level speech support

Areas in which Chicago Now Whips the Mac OS

- Plug and Play device configuration and support
- DOS emulation
- Networking, e-mail, fax, telecommunications
- System-level MIDI and audio support
- GUI (ouch)
- Ease of use (double ouch!)
- System architecture
- Anti-aliased fonts

Microsoft says the OS is tied to Intel architecture and can't be "ported" to PowerPC, Alpha or other RISC processors. That, it says, is what Daytona (Windows NT 3.5) is for. However, the consolation prize is that Chicago's system requirements are a lot lower than those of NT. Similar to the forthcoming "Personal OS/2" release from IBM, Chicago requires only 4MB of RAM to run. However, we'll say it here and now: get more RAM if you want to run Chicago or OS/2. 8 MB, in our view, is a more realistic system configuration for running Chicago, OS/2 or Windows 3.x.

As further evidence that Chicago is The Big One, we're convinced that Microsoft has fixed the truly serious problems that kept Windows 3.x from being reliable and robust enough to be used in a serious computing environment. In our view, the most serious flaw in Windows 3.x is its resource allocation limitations. In case you haven't noticed, a PC running Windows 3.x will run out of system resources when three or four applications are running, no matter how much memory and hard disk space it has. And, as all too many 3.x users are aware, Windows is not very graceful at recovering from resource allocation errors, and usually crashes with a GPF (General Protection Fault) error, causing you to lose all your data. From our discussions with Microsoft engineers of Chicago's inner workings, we are satisfied that Chicago solves this problem. Not only is there a lot more memory available for resource allocations, but the system can dynamically allocate more as it spawns new processes.

Won't you come out to Plug and Play?

Another vast improvement is Chicago's support for the emerging "Plug and Play" standard. Although the operating system will

Continued on page 28

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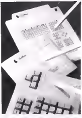

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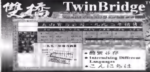

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What Color...

Continued from page **26**

work fine on today's generation of 386 and 486 (or better) PCs, to take full advantage of it you will require a PC that has what is known as a Plug and Play BIOS. The BIOS is the basic input/output system that provides the information a PC needs to access hard disks, keyboards, and other I/O devices.

If you've ever struggled to set up a sound card or CD-ROM drive, you'll appreciate the difficulty of configuring today's PCs (and if you haven't, reading "Card Bytes Man: a Plug-and-play Nightmare" in our June 1994 edition will give you the basic idea). The Plug and Play standard promises to allow PCs to be configured automatically, in much the same way as Apple's Macintosh currently does. Virtually all of the major PC vendors (Dell, Compaq, IBM, Toshiba, etc.) have committed to support P&P. We saw an incredible demo where a Toshiba laptop connected to a docking station, reconfigured its network connection, recognized and established a new printer connection, and mounted a new hard drive, all without turning off the power. In another demo, an IBM PS/1 even turned itself off when Chicago's "Shut down" command was used — a feature previously only available on some Macintosh models. Even better, when the PS/1 was restarted, the applications resumed at the exact point they had been at before the shutdown. We wish more PCs had the PS/1's Rapid Resume feature — it's a great timesaver.

Speaking of Macintosh, we'd be more than a little worried if we were Apple. (Mac fans: skip to the next paragraph now! You're not going to like the next couple of sentences.)

It's pretty safe to say that there's not a single feature of the Mac that Chicago doesn't, um, bring to the PC. Sure, there are a few differences in the way they are implemented, but on close examination, it's clear that Chicago is heavily Mac influenced. Frankly, we think Chicago is superior in many important areas.

As mentioned earlier, Chicago is more robust and crash resistant than the Mac OS. Video for Windows supports better video playback and better multitasking than Apple's QuickTime.

Microsoft's "Registry" is roughly analogous to the Mac's invisible Desktop database and, although it can be argued that the Mac's desktop file is a more sophisticated solution, in actual use, we find Chicago's system to be more user friendly. To explain why, we need to examine how each system tracks information about its files.

Under DOS/Windows 3.x, file types are determined primarily by a three-character extension appended to the 8-character (max.) DOS filename. The system is set up so that files ending with the letters ".DOC" are recognized as, say, Microsoft Word files. For their part, applications typically put the 3-character extension on filenames automatically.

On the Macintosh, each file actually consists of two components: a data fork and a resource fork. The resource fork contains hidden codes which identify the filetype and creator type of each file. For example, Microsoft Word for the Mac saves its text files with the filetype "TEXT" and the Creator type "MSWD". These codes, by the way, are completely arbitrary and may or may not make any sense. The popular HyperCard program, for example, creates files with the creator type "WILD" — an obscure reference to the original working title of the program, WildCard. But I digress.

When MS Word is available on the Mac containing one of these documents, the invisible "desktop" file contains a list of these codes. That way, if the document is double-clicked or otherwise launched, the system knows that it belongs to MS Word, and automatically opens the right application. The trouble starts when a text file created with, say, MacWrite is double-clicked on a Mac without the application. Even though there might be a copy of MS Word on the computer that could easily open the file, the system will complain that "the application that created the file could not be found."

Recognizing this flaw, Apple is reported to be preparing a version of its System Software that includes "Macintosh Easy Open," a

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utility designed to address this problem. (If you can t wait Dataviz already bundles this utility with its MacLink Plus package)

Chicago extends the DOS/Windows functionality in two important areas. first, it (finally!) does away with those much bemoaned eight dot-three-character file names Chicago filenames can be a whopping 255 characters long (Macs support file and folder names up to 31 characters long)

The way Microsoft implemented long filenames is so brilliant we re amazed no one came up with it before The problem with long filenames the way they are implemented in operating systems such as OS/2 and Windows NT is that they are not supported on floppy disks for compatibility purposes with older DOS and Windows systems In other words an OS/2 file will have a different name on floppy than it does on an HPFS hard disk

Also these systems require reformatting the hard drive in order to allow the enhanced filesystems that provide these long filenames. Needless to say reformatting one's hard drive is a fairly drastic step that a number of users aren t eager to take.

Chicago extends the existing file allocation table ("FAT") structures of both hard drives and floppy disks to provide long filenames on all media types. Even better, the disks can be read on systems running other versions of DOS or Windows, and the names show up in standard 8-dot-3 format.

Basically it works like this Chicago stores the long filenames as if they were directory names and sets the system attributes to hide the names so that non-Chicago systems won t see them as directories.

The system also distills the long filenames down into unique short names as necessary "Long File Name" might become "LNGFLNM2" for example to differentiate it from another long name that crunched down to the same letters.

Few machines are ready to fully exploit the plug-and-play capabilities of Chicago If you are considering the purchase of a new PC your best bet is one that offers a so-called "Flash BIOS." This means that the way the computer communicates with the various hardware components can be upgraded to support new features On some PCs this will be as simple as loading new code into the semi-permanent flash memory from a diskette.

A number of PC manufacturers have committed to supporting the plug-and-play standard We've seen statements from big names like Acer AST Compaq Daewoo Dell, Hewlett-Packard IBM, IPC, Packard Bell Zenith, and dozens of other hardware manufacturers, pledging support

Compaq is one of the only companies currently shipping computers that will take full advantage of Plug and Play technology as soon as the forthcoming version of Windows is available We strongly recommend you verify that your vendor is committed to supporting Plug and Play and determine upgrade policies and costs if any Of all the things you should put on the list of features your next PC has we think that full Plug and Play support is perhaps the most important ❑

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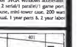

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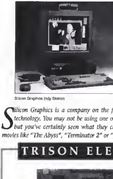
INTERVIEW

A Conversation With Forest Baskett

VP Of Silicon Graphics

BY KEITH SCHENGILI-ROBERTS



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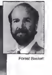

Forest Baskett

Silicon Graphics is a company on the forefront of computer technology. You may not be using one of their computers yet, but you've certainly seen what they can do if you've seen movies like "The Abyss", "Terminator 2" or "Jurassic Park".

Yet stunning graphics are only a part of what Silicon Graphics are all about. This conversation with Forest Baskett, Senior VP and Chief Technology Officer of Silicon Graphics demonstrates what else Silicon Graphics is doing these days.

The Computer Paper: *What exactly is your role at Silicon Graphics?*

Forest Baskett: I've been trying to do what I've always been trying to do to help figure out what's next, to figure out where the industry is now, and think about our product strategy and where we best fit in.

TCP: *How did the firm start and where do you see Silicon Graphics heading?*

FB: Silicon Graphics is now over 12 years old. We started out primarily as a graphics company, but then we moved into multi-processing, parallel processing and in the past eight years we have become quite expert in those fields. In that same time frame we expanded out into additional media and offered more than just 3D graphics by going into audio, video and image processing as well. Our latest expansion has been into the user interface and the ability to make our systems really easy to use — to take advantage of multimedia and graphics to enhance the ways in which people can interact with our machines.

TCP: *How is Silicon Graphics expanding the ways people work with computers?*

FB: Well, you should try out one of our latest machines. The VideoMagic package that comes with our systems is really the nicest and easiest-to-use interface. Especially when you consider that our machines are among the most rich and complex systems around.

TCP: *What is it about these systems that make them better suited for people to work with than say, plain old DOS or Windows?*

FB: We really emphasize the kind of graphics that we really know how to do well in order to provide a rich visual interface for a very fast, very intuitive kind of interaction. So the fact that we've got outstanding graphics with very fast response times and a really nice design is what makes it fly. DOS is an abomination, and Windows is graphically poor — it certainly is not intuitive. Running Windows is a real challenge to almost anyone, let alone people who are not computer literate. This business is not really about computers per se, but how people use computers. Our user interface is simply a lot easier and more effective to use.

This is only one of several areas that have been really noteworthy for us in the past several years. As we go forward, we are getting heavily involved with Time-Warner in the interactive-TV arena and with Nintendo in the video games area. These are areas that fall out naturally from our previous expertise as we find new opportunities to use our technology and in-house talent to do some exciting new things.

TCP: *How is the relationship with Time-Warner and Nintendo going to expand Silicon Graphics into the general marketplace?*

FB: We are not a consumer electronics company and we are not proposing to become one. Our work with Nintendo is natural because of the graphics and the interactive

➤

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MARCOM COMPUTERS CANADA 4490 CHESSWOOD Dr #3, Downsview, Ontario, M3J 2B9 capabilities and the processor design capabilities we have. They are the consumer electronics company and we are really the technology company that can give them a major step forward in terms of what they can offer consumers. That's a pretty straight-forward supplier relationship. With Time-Warner, again there's a natural partnership, because we are working on the server technology and they are supplying the content. Our servers have tremendous input/output capability and when you look at servers for video-on-demand we are really a natural. The set-top units that will go into people's homes in our Interactive TV experiment use an intuitive user interface with high-quality graphics. We are again able to bring our technological expertise into play into a new kind of market. There's a good synergy between the value that we bring to these enterprises and the values and expertise that the other companies bring.

TCP: *When can people expect to see the fruit of these developments?*

FB: Nintendo is planning on launching arcade games first and then video games with the Reality Technology that we are developing. The Time Warner experiment in Orlando, Florida with Interactive-TV is just that, an experiment. It's important to realize that we have a lot to learn about what works and what doesn't work as we try out Interactive-TV. There are a number of these experiments under way. The real value of these experiments is what we will learn from them, and how we can use that knowledge to progress to the next level where we might start getting into deployment on a nation wide scale. Computer manufacturing and home entertainment are multi-billion dollar industries and Interactive TV would certainly seem to offer a better way of providing broader access to both for consumers.

TCP: *A buzzword going about these days is the phrase "Information Highway". How does Silicon Graphics see itself "on the road"?*

FB: I think that things like the Time-Warner experiment are key to the unfolding of the Information Highway. Those are the experiments in which we'll learn what works and what people are really interested in. We'll find how people want access to the Information Highway and what kind of financial models will work. I think we're "on the road" and we are in fact building the road as we go along.

TCP: *Most people know about Silicon Graphics through the work done in such films as "Jurassic Park" and Terminator 2" using your machines. What can we expect to see next from Silicon Graphics in the film industry?*

FB: We love the film industry because we get so much free publicity from them, but they are actually less than 10 percent of our business. As we go forward with our next generation of systems, the type of graphics you saw in "Terminator 2" and "Jurassic Park" are going to be vastly expanded. A lot of the scenes in those movies were done off line. They were scripted, choreographed, story-boarded and then Industrial Light and Magic — who have a hundred of our machines — were computing night and day to generate those actual scenes. As we go forward you'll be able to see those same kinds of scenes generated in real-time by one of our systems instead of taking days and days with a hundred of our systems.

TCP: *Where do you see Silicon Graphics 10 years from now?*

FB: You know, that's the hardest question to answer because our industry is moving so rapidly. The processors double in speed and power every year, and the functionality we can provide goes up by a factor of 10 in three to five years. With that kind of technological change, our basic approach to the world is that we continue to be innovative, and to take advantage of the opportunities that show up. So we really don't think much about 10 years out; instead we look at just what kinds of fundamental expertise do we have to have now that we can use. Exactly how we put together our expertise in computer graphics, visual media, parallel processing and user interfaces ten years from now is almost anybody's guess. The thing that we count on is that we'll stay flexible enough to get there. ❑

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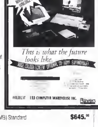
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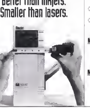

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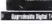

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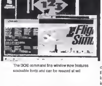
Windows 4.0

*Continued from page **22***

Although the current generation of the Mac operating system has limited multitasking capabilities. It is what's known as "co-operative" multitasking. This means that all the apps agree not to step outside their allotted memory space. However, if one application crashes or otherwise goes awry, it usually brings the whole system down.

IBM has made much of OS/2's "crash protection" — each app is protected from the others by the operating system. Although no system is impervious from crashing, there's a much better chance that, if one program goes down, the OS will protect the other tasks from damage. Chicago promises to provide similar capabilities, leaving Apple's OS as the only one on the market that doesn't provide robust multitasking and memory protection — features Apple concedes it can't incorporate until sometime next year at the earliest.



The DOS command line window now features scalable fonts and can be resized at will

DOS: a "heritage status" OS?

Naturally, Microsoft hasn't turned its back on users that regularly use DOS applications. In fact, the company maintains that it is committed to nothing short of total compatibility with existing DOS and Windows applications and drivers. Although we recommend that you take that statement with a grain of salt, it appears from our close examination of the architecture of the new release that the company is likely to succeed in convincing the vast majority of PC users that they can safely leave DOS behind. ❑

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Authors on Computers

Continued from page **21**

users The documents cover such topics as Effective Work Habits 10 Points on Plotting and Manuscript Formats.

In terms of equipment Kilian says that he began on a British PC called Apricot.

"I took two weeks to learn it and in the next seven weeks wrote a non-fiction book A dramatic increase in productivity I used it for five years and wrote several more books and a couple of hundred columns on it.

"[Currently,] on my three-year-old Mac LC I did another nonfiction book in six weeks over the winter For journalism and college-materials production the Macintosh is superior For fiction the important element seems to be the author not the machine "

A person's writing style, strangely, does not seem to change as a result of using different equipment Kilian believes that there has been "no major influence on my style (beyond rescue, alas) But ease of revision means that you can go back and polish where once the sheer drudgery of editing and retyping would have deterred me into letting the original version stand despite its weaknesses "

And Kernaghan agrees "With a computer I was able to write in a more compact style With editing so easily done I was able to trim down my writing. Editing is so easy — it's no problem to go through a page and take a bunch of stuff out because you're not retyping [all of] it I had a story that was 7 500 words long and I wanted to send it to a contest that required 3 500 words So with a computer I was able to edit it down from 7 500 to 3.500 and it was amazing how much better it was to go through!

"Every time you decide to take something out to tighten it up you have to type the entire page again [on a typewriter] The amount of work involved discourages you from doing the editing It's easier to just leave it as it is."

Kernaghan finds that the speed of production is one of the major advantages of a computer

"Most book publishers now expect you to produce using a computer It's faster " she says. "If you don't have a computer there's no way for you to keep up with the pace. You're taking three years to write a novel and everyone else is taking three months or a year

"Another advantage is now that you've made it a necessity to use a computer almost any magazine that buys a story or even a poem will buy the hard copy and then immediately ask you to send it to them on disk. And they'll typeset from that. If you haven't got a computer you're stuck! You're out of it

"Harlan Ellison — he's in demand, he can set his own rules For the rest of us, we have to do what we're told!"

But if there's any disadvantages to technology Kernaghan complains that the user becomes technologically dependent

"If the computer doesn't do what you're asking it to do It's panic time!" she wails "If something goes wrong, you're completely lost. Find someone to fix it. You don't know where to begin to solve the problem Meanwhile it holds you up You can't just go and use someone else's program."

So, what does the future hold for writers? Like Commander Adama in *Battlestar Galactica* who dictated the ship's log into the computer, perhaps we will reach an age in the near future, because of voice-recognition technology where authors lie on a beach with a margarita in their hands They will vocally recite that next bestseller into their flat-screen notebook which will absorb every word and print them on screen The software will recognize such typing mechanics as paragraph' comma' and period' and quickly execute such commands. (Better yet let the software work out the English problems!)

Those are the days worth waiting for No more problems with carpal tunnel syndrome except an epidemic of speechless (or hoarse) writers from all that talking. ❑

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SHOW REPORT

Comdex: The Wild and Woolly Insider's Report

BY JAMES MACFARLANE

Comdex happens twice a year. It's a huge computer trade show that attracts the who's who of the industry. From game developers to the mainframe makers, it's all there and it's a nerd's dream come true

I've been to too many trade shows for them to be fun anymore. While others attend the show wishing for lots of free t shirts buttons and software samples I wish for a pair of insoles (maybe if I get a few mouse pads and cut them just right...) In any case I decided to attend this particular show with a slightly different point of view I was going to have fun, no matter the cost

Day 1

I don my red badge holder It says press and it means I'm on my way to the endless freebies of Comdex First stop, a room labeled press kits — it s about the size of the Library of Parliament piled a few feet deep with glossy folders packed with the latest propaganda from the computer industry I carefully browse over the stacks of folders knowing that if I take too many I will require major shoulder surgery by the end of the day When are these people going to learn It s the information in the press kits that impresses the journalists not the packaging. Oh well at least I can exchange the ones I don t need for serious geek points with my friends

IBM has a few thousand briefcase-sized blue boxes with handles piled against one wall. I see the other journalists in a frenzy packing them with press kits and running to the Federal Express and UPS kiosks downstairs to ship them back to the office I too, fill a box, but foolishly tote it along with me My deadline is over a week away

Next door is the "working press" room, a space full of PCs, fax machines and phones for my fellow members of the press to get their work done Armed with my trusty NEC Versa notebook I need none of these toys. I trek onward, down to the conference level floor to take on the show

The acoustic spectrum is a flurry of music and sound demos live demonstrations and a few thousand conversations. A suave good looking man is standing in a booth singing to a Frank Sinatra tune The company is Quebec based Tune 1000 makers of Soft Karaoke It turns your PC and sound board into a karaoke machine complete with microphone They ve got dozens of titles from oldies to modern

Mr Duval "croons" along with Soft Karaoke

The guy singing Mr Duval, is really good so I grab him after the "show" Gone is the smooth crooner's voice, replaced with a strong French accent He tells me the package is selling well — you can even arrange your own band by adjusting and swapping different instruments They have customers/groupies who drop by the booth for guest appearances Only $79.95 for the kit

Continued on page 38

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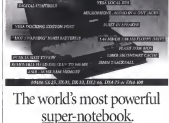
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Comdex: Wild and Woolly

Continued from page **36**

Additional song packages sold separately Soft Karaoke is fun for parties but don't let your friends see you

A few rows away is a company called PC CompoNet They've taken videos like the classic 30s flick "Reefer Madness" and about a hundred porn films such as "The Beaverville Hillbillies" and turned them into full-length MPEG editions on CD ROM

Politically Challenging CD-ROMS seem to be everywhere at the show A company called Vice Entertainment out of Montreal is down there taking orders for their erotic literature and CDs full of GIFs.

A new twist on the multimedia theme (where else but in the steamy aisles of Comdex?) is a CD ROM from a company called New Machine Publishing It's showing off a product called Dream Machine labeled as "interactive virtual sexuality The software-generated escort takes you through a series of sexual fantasies, then asks you how you feel about them. The software then tailors the fantasies to suit your personal tastes. Gives a whole new meaning to the word joystick.

Things are getting weirder by the minute down there so I stop by the press room again to see what's going on A friendly guy in glasses with red frames is joking around with various people in the press kit room I make a few jokes with him so he tells me to go to the work room and ask for a party list — Yes! there is a god for geeks

I have a choice between Claris and Microsoft. The Claris event ends at 9pm so I choose the "Microsoft Geekfest" party which starts at 9pm (it must be better, there is no ending time) After navigating through the endless corridors of the Omni Hotel which is directly under CNN headquarters I come across a room full of boisterous Microsoft employees and press people Endless free pizza, wine and beer

At one end of the room there's a giant screen playing the basketball games at the other dozens of people are playing with Nerf toys putting a sponge golfball into a Microsoft mug shooting a target with a Nerf bow and arrow pistol and rifle. Once you score 10 points you can claim the prize of your choice at the table: Word, Excel, Access Encarta Dinosaurs, T shirts and other Miscorsoft paraphernalia are exchanged for the game coupons.

BREWSKI BILL. Microsoft Chief Bill Gates at one of Spring Comdex s watering holes. *Photo courtesy Dwane Lamb.*

And look There's Bill Gates wearing a green golf shirt and a pair of jeans This guy needs a serious fashion consultant Gates casually mingles with the crowd. Gone is the corporate mogul of the morning's keynote address. It's just Bill, with a beer in his hand a smile on his face and cheerful conversation with anyone who will approach him. A far cry from a press conference

Bill leaves later in the evening every one is drinking and the party gets sillier People are out in the corridor having a war with about 15 Nerf footballs The hotel staff begins to get worried People with the Nerf Weapons of Mass Destruction turn the foam projectiles on their friends Aside from getting a Nerf dart in my mouth I escape unharmed.

The party s host announces that any one with a tattoo is entitled to a free Geek fest t-shirt. I can't resist. A while later she announces that anyone with a piercing somewhere other than their ear would be given a Visual Basic t shirt — and they had to show it Unfortunately I don t qualify, but I do manage to scam a VB shirt by answering a skill testing question The party doesn t get that out of hand, but at midnight the hotel staff politely ask us to leave That s ok because tomorrow night is Delrina s party

Day two

I meet "PowerPC" Man at the Motorola booth A big light and video show where he pretends to talk to people "live" over the information superhypeway Ignore the

➤

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man behind the curtain — this show is devoid of content. Well, at least it was better than the Intel booth — they weren't even there. Day two on the floor is relatively uneventful. I realize how boring trade shows really are — or maybe it's not boredom, maybe it's just sensory overload. Too many people trying to get your attention. On day two the exhibitors' tactics border on the annoying.

At the Delrina booth I swap a copy of *The Computer Paper* (May's edition with the review of Winfax 4.0, of course) for an invitation to the Delrina party. The party is at the Peachtree Plaza, a huge mirror-plated cylindrical building in downtown Atlanta. Delrina has booked the Presidential suite — on the 70th floor.

At the door I'm handed a chemical luminescent "button" with "Fun Fun Delrina" printed on it. It's one of those things where you crack a tube, mix the chemicals and it glows for hours. The room is aglow with huge blue, green or pink bulbs stuck on various pieces of the attendees' clothing. There are a few signs up on the wall: "fun fun fun on the infobahn". Another sign says "speed limit 28.8". This is obviously going to be a fun evening.

The view from the 70th floor is amazing — windows from floor to ceiling. It's pretty crowded so I manage to force my way though the bodies to find a cold one at the bar. Behind me is a fine selection of finger food: breaded shrimp, meatballs, wings, sausage rolls and other assorted items.

Wilma and Fred Flintstone are there — local actors dressed up as the characters in order to promote Delrina's new Flintstones screen saver. They look pretty good so I decided to grab Delrina's VP Bert Amato for a picture with them. Bert is a good sport and poses for a quick Polaroid.

Delrina's VP Bert Amato meets the Flintstones

I chat up a few of Delrina's Wincomm developers, trying to pry out a few secrets about the next version and also to give them my personal wish list. They're pretty tight-lipped about the next release but are sympathetic to my concerns.

On the tables around me are generous stacks of Delrina product, which invitees are encouraged to scoff for their own personal use. I've got about a megaton of press kits and other stuff to haul back to Toronto with me so I pass.

I quit the party at midnight, grabbing a few fortune cookies along the way. The fortune is "$25 towards a subscription to Delrina's new fax mailbox service". On the wall near the door I steal the "Speed limit 28.8" sign — a souvenir friends will ask about, at which time I'll be able to tell a few crazy stories that aren't suitable for print.

Day three

I wake up in pretty good shape, attend a press conference for a cool new machine from AST and make my way over to a show. A company called Romulus is demonstrating a product called CD Romance.

These guys are making multimedia personal ads on CD-ROM. Here's how it works: you call their office and they send you a kit. In the kit is a questionnaire, you fill it in and include a few pictures of yourself and a home video. They take the information, digitize it, and put it on the next CD. The CD Romance is sold in stores and people can search for partners who suit their tastes.

They were taking new applicants in their booth at the show and have had a good response. One problem that's typical in computer circles: the male to female ratio. It's a great concept, but a few hundred male computer geeks on CD — I dunno, somehow I don't think these guys are going to get too many dates this way.

Romulus plans to bring out both PC and Mac versions of the disk. The question is, is it a good idea to match up PC and Macintosh people? The company had no comment. ❑

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SHOW REPORT

But Is It Art?

4Cyberconf Meets in Banff

BY KENT BARRETT

TCP's The Night Weasel Jostles with Elk for the Best Seat at the Fourth International Conference on Cyberspace and the Art and Virtual Environments Symposium

Elk Warning!!!

4Cyberconf the fourth international conference on cyberspace was held in Canada for the first time in late May of this year, in conjunction with the Art and Virtual Environments Symposium.

Banff Alberta is at once an exhilarating and a frustrating setting for an examination of the state of the virtual arts. Nestled among the mountains of Banff National Park, Banff Centre researchers and conference attendees shared this placid postcard village with all manner of wildlife including calving elk who are known to aggressively protect their young. Signs in all buildings reminded everyone to be aware of the warning signs of elk aggression (staring, stamping, whites of eyes showing...) and to stay at least 100 meters away from them, which is difficult if they happen to be feeding on the shrubbery outside the front door of your lab.

It is sobering after several hours in a darkened room with your head clamped into a virtual reality helmet to step outside into the blazing panorama of a Rocky Mountain landscape and be confronted by a herd of wild animals that might suddenly decide that you are a threat to their young. It is a shocking reminder that even Silicon Graphics cannot produce computers that can give even the palest of reflections of the reality we take for granted every day.

Of course that's no excuse not to try.

The symposium showcased work from the art and virtual environments project in the Banff Centre's Media Arts program. This three year research program, which began in 1991 has provided artists in a variety of disciplines with the access to the computer technologies required for them to explore the implications of VR.

Dancers, native artists, architects, painters and musicians, all with little or no computer experience were brought together with teams of technicians, programmers and high-speed machinery (including an SGI Onyx Reality Rack) in an attempt to stretch the limits of their own creativity and push the envelope of what VR is considered to be. The results were fascinating. Here are a few of the many highlights.

Bar Code Hotel

by Perry Hoberman

Most VR installations adhere to the popular model of dataglove and head mounted-display. One cyberspace-suited traveler explores a (usually) lonely world and navigates, bodiless, through a constructed landscape of flickering polygons and unearthly music. Not here.

At the Bar Code Hotel you can check in with your friends. In this space visitors wear simple polarizing eyeglasses, and a pair of video projectors beam the virtual environment into the gallery superimposing it on the 'real' environment of the otherwise empty room. Entering the gallery, guests find themselves on the observation deck.

Beyond this platform the gallery space is covered with bar codes (the familiar striped Universal Product Codes printed on most products' packaging these days). Five light weight laser pens are provided to scan these codes and experiment with the effects they have on the environment. The effects are startling.

Scanning a code will suddenly cause a common (though uncommonly large) object such as a giant paper clip camera, or hat to appear in three dimensional space where it immediately begins to move around and exhibit its own "personality". Scanning other codes will evoke changes in the "behavior" of the floating objects, causing them to become "shy" (avoid other objects) or "aggressive" (chase other objects), or show a variety of other personality traits and, of course, emit different sounds.

The objects also have a life span. After a period of a few minutes they become sluggish and respond less vigorously to new codes, and eventually they flicker out and die (though they are still partially visible for a while as thin "ghosts".)

Guests can be as interactive with the objects as they please, scanning in a constant stream of new codes, or simply letting an object go where it likes and only occasionally "correcting" its behavior. It's a lot of fun, but the best part is that since the room itself is the interface guests can interact with each other. Bar Code Hotel can be played freeform like a game without rules or directed precisely like a stage performance. This piece drew a lot of oohs and ahhs. It's not quite the holodeck, but it's a step in that direction.

See Banff! Kinetoscope

by Michael Naimark

This piece is a leap both forward and backward at the same time. Looking decidedly out of place beside the Macintosh computers and 3D sound generators in the Bit Rot Café is a tall wooden box with a crank on one side, and a single-viewer eyepiece on top.

The device resembles that famous 19th century VR machine the kinetoscope. And

Continued on page 48

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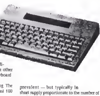
AlphaSmart Smart Keyboard for Mac

REVIEWED RY GRAEME RENNETT AND DOUGLAS ALDER

SmartPad Inc. offers an unusual keyboard for the Mac: it's got a simple text editor built into it. You can disconnect the two-pound battery-assisted keyboard from your desktop Mac and carry it around with you as if it was a portable computer, for taking notes. Shades of the TRS Model 100!

The AlphaSmart, as it is known, holds up to eight separate files (selected by pressing F1 through F8). When you plug it back into your desktop Mac using a supplied cable (which the company insists can be done safely without turning off either unit), you can transfer the files by simply pressing the "Send" key. Transferring data has never been easier.



The unit fools the Mac into thinking the text is being typed directly into your existing applications (say, Microsoft Word or some other word processor) from a standard keyboard. Neat!

The battery life is impressively long. The company says the AlphaSmart will last 100 hours on two AA alkaline batteries.

While the keyboard works reasonably well, it is not the greatest editing device as it is laborious to maneuver around once you become used to the idea of being able to click anywhere with a mouse in the usual Mac and Windows programs. The biggest problem came when we went to download the text to a desktop computer. In its current incarnation, the unit is very slow in sending data. We practically could have rewritten the story in the time the AlphaSmart took to send it to the Mac.

It may also be problematic to use it as a substitute keyboard because of this slowness. Anyone who can type faster than about 20 words per minute would quickly surpass the keyboard buffer on the unit. We noticed what appears to be a bug in the SmartPad related to the slowness of the keyboard buffer. If you type very quickly, it seems to get "stuck" on a letter and types it continuously.

SmartPad says that it is preparing a software patch that will address this limitation.

The company is currently focusing its marketing efforts on selling the AlphaSmart into the school system, where Macs are prevalent — but typically in short supply proportionate to the number of students. It's not hard to see the value of having several AlphaSmarts per computer. At the end of each class, the students can just plug into the Apple Desktop Bus of an available Mac and enter their already typed-in data.

We feel that SmartPad Inc. should do everything it can to speed up the data transfer rates. More than a few people, we suspect, would consider an AlphaSmart a flexible alternative to a standard keyboard. We'd like to see an adapter that allows the unit to be attached to a PC. The company says a PC version is coming soon, but we'd rather have one unit attach to both platforms. We'd also like to see them lower the price somewhat. At US$269, the unit is a little pricey.

The company offers a free 16-minute video demonstrating the AlphaSmart's capabilities. ❑

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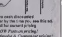

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REVIEW

NEC's Luxury Notebook

A look at the Versa 50 EC

BY ROSS MACDONALD

My love affair with portables began more than 10 years ago when I bought an Apple IIc after having been anchored to my desk by a II+ then IIe. Of course, things have come a long way since then as I write now on my paleolithic "laptop". But my laptop's petrification didn't start in earnest until I met the new NEC Versa 50 EC — a luxury notebook that's definitely not for the faint of wallet.

The two new Versa Es (E stands for "enhanced") are among the most capable, flexible... and expensive notebooks around. My 50 EC is the top model sporting Intel's 3.3 volt 50 MHz SL 486-DX2 processor and a street price of about $6,800. The slightly more economical 40 EC is identical but with a 40 MHz DX2.

Capability wise, these 6.9 lb marvels do almost everything that might be expected of a desktop. The 50 MHz DX2 is comfortably fast, though not quite as speedy as the designation suggests (a recent test showed benchmark performance near that of a straight DX 33). So the response time for some commands did betray heavy breathing under the hood.

And power management is a must if you expect to get the touted 3-5 hours from the removeable NiMH battery. NEC has thoughtfully provided a variety of power management levels ranging from none to annoying — the latter yielding 6-10 hours from a single charge if you can stand all that sleeping and waking stuff. Flat batteries charge in about 1.5 hrs with the machine off and in about 3 hrs when it's in use.

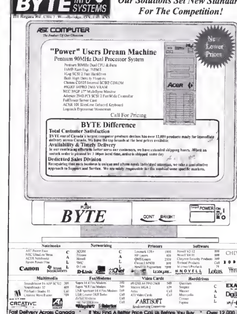
The status of all activities is indicated by a strange icon-based LCD panel just above the keyboard. Low level power management, for example, shows a running faucet, high level shows a dripping faucet. Both are displayed with blank and filled circles and a letter "C" in combinations that require the owner's manual even to write about.

Pointer control is achieved by means of a trackball placed — thanks to user feedback according to NEC — somewhat awkwardly below the spacebar on the front of the machine. But the buttons are set logically to the left and right of the ball and I got used to the arrangement quite quickly, despite its demand for two-thumb dexterity (one for the ball, one for the buttons). I can only complain that the smallish 16mm ball requires pesky and frequent removal for cleaning because it loses responsiveness after only moderate use.

On the other hand, there are absolutely no complaints about the keyboard. Wrist resters will be unhappy that it's at the front of the machine but keyboard size, response and feedback are all excellent and it has a logical layout. There are separate Home, End, PgUp and PgDown keys with an inverted T layout for cursor control. A single Fn key activates the embedded functions which are all marked in blue.

NEC must love me because the Versa they shipped to me has its renowned TFT colour screen driven by a 1MB SVGA controller with BitBLT video accelerator. The 9.5" diagonal puts this among the largest color screens available and it can only be described as stunning in terms of brightness and clarity. I've run a multitude of CD-ROMs through this machine and all have shown up beautifully and with excellent animation. One disk even complimented the quality of my video capabilities after running its own test during installation.

Continued on page 46



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Incompatible... and Proud of It

BY BOB LOBLAW

Apple is at it again Although there were Macintosh owners who had hoped that the company's strategic planners were through their "Dark Period" it appears that the dawn is not yet at hand

For those who have not been following the sordid saga of Apple's boneheaded system software strategy let me recap Apple was once renowned for its Macintosh system software The Macintosh Apple proudly proclaimed was easier to set up and maintain than any PC. And they were right And then during the Dark Period starting with the release of System 7 Apple basically lost it For starters System 7 was about 20 percent slower than the System 6 that preceded it Then almost nobody used — or supported — the Publish and Subscribe feature that was touted as one of the big benefits of the new version Balloon Help another system 7 only feature — also came to be regarded as nearly useless and hopelessly clumsy

Soon afterwards, Apple started making computers that weren't compatible with the earlier system software releases. You had to use System 7 It then started to charge money for its system software effectively fragmenting the user base Next the company split up its system software into a standard issue a home version (not officially available in countries other than the U S) and a "Pro" version The main claim to fame of System 7 Pro is AOCE (which quickly got the appropriate nickname "Ouchie ") It includes an E-mail system that to be blunt, is pathetically slow

Then, Apple came up with the brilliant idea of "System Enablers " which made it impossible to create a single boot disk that would start up any model of Macintosh. Worse it gave these enablers seemingly random numerical codes that had nothing to indicate which model they were for About the same time it started on a haphazard program of System upgrades. One particularly absurd example was when it released an "upgrade" (bug fix) for its hard disk formatter only two weeks after it released another version in System Hardware Update 2 0, which had a different name than System Updates 1 0 and 3 0 Apple's CD ROM software 4 5 came out after version 5 0

All the while the company was releasing and rapidly discontinuing dozens of different Mac models with overlapping feature sets and price points.

Now in what may be its greatest stroke of subgenius Apple is preparing to release QuickDraw/GX a system software upgrade that is reported to be incompatible with all existing printer drivers — including Apple's own In other words you will need to get new drivers for all printers — if you can — before you can print with the new software Apparently the Adobe Type Manager font utility — a standby for most desktop publishers — will also require updating to be compatible with the new system software Current releases of major programs such as Aldus PageMaker 5 0 are rumored to be incompatible period Perhaps all those years of building computers so easy a dummy could use them has had an unexpected side-effect

The Low Self-Esteem of PC Users

And speaking of dummies what is it with computer users? Have all those years of being thought of as geeks and nerds taken their toll? How else can you explain the phenomenal success of the " for Dummies" series of computer books from IDG Books? Eighteen of the 40 bestsellers on the April Publishers Weekly Computer Bestsellers list were from IDG Books and 15 of those titles were books in the "... For Dummies" series.

The issue is not whether they are well written books (they are) but why they can't reflect a more positive attitude "Computer Books for People Who Have Better Things to Do... ", for example.❑

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NEC's Luxury Notebook

Continued from page 44

But it's flexibility that really makes the Versa worthwhile. The screen is removeable so it can be turned for presentations or even exchanged for color and monochrome. NEC also offers a pen/finger based touchy feely interface called TouchPen, though I think they won't find many takers for that overblown technology.

The hard and floppy drives slide out to allow interchanges while the floppy's slot also accommodates a second battery for those who spend extra long periods away from a wall socket.

My system is the no options package but even at that it's impressive: 4MB of RAM, the 209MB removeable hard drive, the 3.5" 1.44MB removeable floppy, two PCMCIA Type II slots, a docking station port, all the usual ports and that fabulous color screen.

Options include the color and monochrome screens, proprietary 4 #8 #12 or 16 MB RAM cards, hard drives of 120, 209 or 340 Mb, upgrade to TouchPen operation, a docking station, port replicator, extra battery pack and charger, car adapter, carrying case and the usual array of PCMCIA cards. Watch for a 75 MHz DX4 based version (and upgrade kits for the Versa Es in the near future).

With its numerous options and high quality components, the Versa 50 EC is a serious contender for those who want the best in portable computers. Or, if you only want one machine and portability is important, the 50 EC makes for a happy desktop substitute, especially if you can afford the extras. ❑

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SHOW REPORT

Multimedia 94 Trade Show and Conference

BY KEITH SCHENGILI-ROBERTS

Multimedia 94 was held May 26-28 at the Toronto Convention Centre.

Last year's Multimedia 93 Trade Show and Conference was really the first timethe idea of "multimedia" became a factor in home computing and in business. This year, Jaron Lanier and friends came up from the States once more and put on a Virtual Reality concert for those interested in exploring the artistic possibilities of virtual reality. The actual Trade Show displayed many of the implements needed to create the virtual worlds and combinations of sound, sight and computing that is multimedia. Though there were still many exhibits devoted solely to photography, this year there was greater integration of picture and sound production with computers.

Apple's PowerPCs

One of the Apple displays featured a multimedia showdown between a Pentium PC and an Apple PowerPC. Guess who won? Though there was a Newton on display for people to try out, it was the PowerPC that stole the show. These speedy RISC-processor computers make a fast Quadra look like a slowpoke. For the typical user, a PowerPC equipped with full multimedia capabilities makes a very impressive machine. While these computers are able to run DOS and Windows-based applications as well, they are not able to run these with any sort of speed. But with more native PowerPC applications already out or coming out soon, the PowerPC is a real contender for multimedia supremacy in the home- and small-business market.

Contact: Apple Canada Inc 1-800-665-2776

The Vivid Group's "Shark Bait"

Toronto-based The Vivid Group, which brought the Virtual Reality Goalie to Toronto's Hockey Hall of Fame, was showing off some of its wares at Multimedia 94. In particular, it was displaying an interactive adventure game called "Shark Bait," credited as the "World's First Dive-In Movie." In this game you become part of an adventure in a virtual version of Australia's Great Barrier Reef. Using your arms and legs you "swim" in this environment, looking for treasure and avoiding sharks. The way the Mandala equipment is designed, you do not have to wear any special equipment or other contraptions to immerse yourself in their virtual world. You are in front of a screen and you just have to look at a nearby television monitor to see how you are doing.

The best thing about this game is that you get to swim in a virtual world without having to wear scuba gear, or even get wet! The game unit will be touring Australia later this year, and will soon be available in an arcade hall version.

Contact: The Vivid Group (416) 340-9290

Continued on page 49

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But Is It Art?

Continued from page 40

indeed it is a kinetoscope, of sorts Turning the handle on the side allows viewers to navigate and browse back and forth through a variety of silent stereoscopic "views" of the Banff area and rural Alberta.

I found the concept interesting but couldn't see the work properly, as the view piece was not designed to accommodate people who wear glasses. Naimark sheepishly admits this and will change the design for his next piece

Inherent Rights, Vision Rights

by Lawrence Paul Yuxweluptun

I first noticed this work when a young girl sitting at the eyepiece cried out "A bee just went by!"

Inherent Rights Vision Rights is noted for being the first piece created at Banff to integrate 3D sound and visuals The work is housed in a dishwasher sized plexiglas enclosure that reveals its inner machinery and cabling An eyepiece (yes It works with eyeglasses) is presented at eye level when a viewer is seated before it Navigation buttons mounted on columns replace the dataglove for maneuvering through the environment. Stereo headphones complete the ensemble.

Starting the device, you find yourself on an eerie featureless plane It is night Strange animal sounds fill the air and music can be heard in the distance Far away a low building is visible and this seems to be the source of the music

As you navigate toward the building the music increases in volume and tempo Flies buzz around your head ("A bee just went by!") The music reaches a crescendo as you enter the long house. Ceremonial fires burn within their smoke rising up through holes in the ceiling Arranged around the room are large reproductions of Lawrence's paintings as on dividers in an art gallery Leaving the gallery you are free to roam around outside, where animal and spirit images float in the sky

Topological Slide

by Stewart Dickson and Michael Scroggins

The surf weasel checking out the topological slide

In this work, viewers wear the HMD and stand on a low platform about three feet in diameter Sensors under the platform sense the weight of the viewer and navigation is controlled by shifting your weight forward and backward and from side to side to direct your virtual self around 3D representations of mathematical equations Very cool

The inventors called it a topological slide but every one else called it what it is: a surfboard The first time I tried it out I was very impressed but slightly disoriented. the controls were working backwards To move forward I had to lean backwards to go right I had to lean left I mentioned this to one of the technicians "That's weird," he said "It was working perfectly last night "

You hear a lot of that around VR installations.

Placeholder

by Brenda Laurel and Rachael Strickland

This work attempts to use actual physical locations in Banff National Park as virtual locations to be navigated by players in this two-person interactive piece It is only partly successful in that regard Digitized video frames of footage shot at the three different locations were mapped onto computer modeled geometry to produce natural virtual spaces that participants can explore and interact in, or at least that was what was hoped for.

Optical limitations prevented the scenes from matching as well as had been hoped and the final work had to make some concessions to topology, but it is still a valuable experiment

In this piece, two cybernauts wearing HMD's can enter the environment at once Upon entering the space you can look around all you want, but in order to interact it is necessary to "put on" a body This is accomplished by sticking your head into the icon of a fish crow snake or a spider.

These icons are referred to by Laurel and Strickland as "smart costumes" the idea being that by becoming one of these creatures you assume different powers Fish can swim of course Snake can see in the infrared and naturally Crow can fly

The players can see and hear each other in the environment and how you are seen and how your voice is heard depend upon which smart costume you are wearing Fish sounds like many bubbling voices at once for example and Crow sounds like, well, a crow

This piece stands out in my mind for one other innovation it introduced as you wander about the world you can leave graffiti Not the spray-paint kind (a limitation of RAM, processing, and programming constraints) but an audio equivalent "Voice Holders" beautiful stone glyph-like markers located at various points may be filled with messages observations, or songs to be played back by the next person who wanders by

Conclusion

There was more lots more but there isn't the space here to describe it all Some of the exhibits were entirely visual some entirely aural some both some had physical feedback. Some were serious and thought provoking others "merely" entertaining or fun

The Banff Centre will be a place to watch over the next few years as technician/artists and artist/technicians continue to put their heads together to build that holodeck we've all been waiting for One day, not too soon, but not too far away, I completely expect to be able to walk into an empty room feel the sun on my face and the wind in my hair and find calving elk staring, stamping, whites of eyes showing ☐

Multimedia Conference

*Continued from page **47***

IBM s Personal Dictation System

The idea of speech recognition by computer has been around almost as long as computers themselves. However it is only recently that computers have been powerful enough to be capable of taking on this task For the most part, computers able to process speech into on-screen text have been largely experimental in nature, and only affordable to senior executives in large businesses. Now out of IBM s Boca Raton labs comes the IBM Personal Dictation System, which runs on a 486- based system

This program which won the Best of Show award, was impressive to watch in action, as it correctly deciphered the words spoken by a demonstrator It is even able to place commonly used homonyms and proper nouns in the right context In the demonstration I saw the program was able to correctly spell out "Mrs. Wright" in a sample letter instead of typing out "Mrs Write" or "Mrs Right" It is also able to distinguish in most cases when it should use words like "two" "to" or "too" in a sentence There are several different vocabularies available including business dictation journalism and medical vocabularies.

It requires a base machine of 486SX 25MHz running OS/2 with 60+ MB free disk space It also needs an additional 8RAM above that needed to run the operating system plus sound equipment designed to work with the program It has to be trained for use with an individual speaker but once trained, the program can correctly decipher speech at up to 70 words per minute

Contact. IBM Canada 1-800-465-7999

CBC s The Language of Light

The Canadian Broadcasting Corporation is slowly making itself felt in the Canadian multimedia market At the show the CBC was demonstrating a prototype of a CD ROM called "The Language of Light", an interactive training course focusing on technical lighting for broadcasting, film and the visual arts The Windows based CD-ROM is the result of a collaborative effort from many of the country s top lighting experts and is a series of presentations and exercises using the full advantages of multimedia

To test the marketplace, the CBC is selling a prototype of the CD ROM to interested customers for $50 While this subject is aimed at a particular professional group you have to wonder what else the CBC is planning to do with multimedia

Contact: CBC International Sales, Educational Sales Division (416) 205-6384

The McLuhan Program's VRAAP

The University of Toronto's McLuhan Program long a pioneer in virtual reality and media research had a respectable display at the show this year, showing off virtual worlds and immersing willing subjects into them via head-mounted display units They were also using the space to show off the artistic possibilities of the virtual reality medium In an effort to give artists greater access to the tools behind virtual reality they have started the Virtual Reality Artist Access Program (VRAAP) The purpose of the program is to allow artists free access to virtual reality instruments, to integrate the technologies into easy to-use packages, and to fund specific artists to create virtual reality art.

People interested in this program can contact Graham Smith at the University of Toronto at the number listed below

Contact VRAAP (416) 978-7028
Internet e-mail grahams@gpu utcc utoronto ca

On the whole Multimedia 94 was a good show with numbers not noticeably diminished (like many other computer trade shows in Toronto this past year) by the marketing pull of Comdex Canada If you missed out this year the show will return to the Toronto Convention Centre between May 31st June 1st, 1995 ❑

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Roland Hears Quicktime

BY LINDA ROHRBOUGH

CUPERTINO, CA (NB) — Apple Computer has teamed up with professional musical instrument company Roland Corporation to offer Roland's Sound Canvas musical instrument sound collection for use in the next release of Quicktime.

Apple says that users will be able to use the Roland musical instrument sounds to make music using its multimedia extensions for the Macintosh without needing to know the technical nuances of musical instrument digital interface (MIDI) technology.

Quicktime movies are made up of different tracks, such as a video track and text track, and now Apple is adding the ability for developers to include a music track. Each track is considered a "movie" itself, so the music track is often referred to as a "music movie."

Roland's Sound Canvas product includes families of musical instruments, such as piano, organ, guitar, bass, strings and orchestra, ensemble, brass, reed, percussion and sound effects. Apple has licensed one instrument from each family for inclusion in Quicktime 2.0.

Altogether, there will be 16 instruments including some more unusual ones such as "special effects", according to Applesoft's product line manager for multimedia software, Duncan Kennedy. MIDI files usually take a significant amount of space, but Quicktime music movies can be stored in significantly less space, Kennedy added. For example, Beethoven's Moonlight Sonata would require nearly 180 megabytes (MB) if recorded as compact disc (CD) quality audio but when stored as a Quicktime movie it needs only 75 kilobytes (K).

Kennedy told Newsbytes that although there is a certain reduction in sound quality in the Quicktime music movie, it is nowhere near as noticeable as one might first expect. Quicktime stores eight-bit audio, but in using the premium-quality sound samples encoded by Roland to reproduce the sounds, Quicktime is able to play back music at much better quality than standard eight-bit audio is able to produce.

Quicktime 2.0 was announced earlier this year and is expected to be available this summer. ❑

Contact: Apple Canada, 1-905-513-5511, 1-800-263-3394

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Hands-on CorelDraw 5.0

BY GRAEME BENNETT

CorelDraw 5.0 is bigger than ever. A full installation takes a whopping 50 megabytes of hard disk space — and that's not including all the fonts or clip-art that come with the package.

The Promise and the Pain

First the good news CorelDraw 5 addresses virtually all of the complaints we noted with previous releases, including CorelDraw 2.01 (reviewed way back in Feb '92) version 3.0 (reviewed in *The Computer Paper* July 1992) and version 4.0 (reviewed in Sept 1993) Most notably, the fonts are of higher quality than those supplied with version 3 (there are now 825 of them) and text handling is much, much faster than in version 4.0 And did somebody ask for new features?

CorelDraw old-timers may recall that Corel was one of the first companies to bundle a CD ROM disc with its product, which the company did with CorelDraw 3.0's release, back in the spring of 1992. In Sept. '93 we marveled that CorelDraw 4 came with not one but two CD-ROMs. Well, version 5's got three of 'em And believe it installing the package from CD ROM beats the heck out of juggling floppies.

It's worth noting that although CorelDraw continues to allow you to access the program from CD ROM rather than installing it all on your hard disk there are a couple of good reasons you might not want to do this First, it's a lot slower But more critically you can't access disc 2 at all if you choose to run the program from CD-ROM because of course, it needs to have disc 1 in the drive to run

So say goodbye to 50 megabytes of hard disk space Yep you read right The big five oh Even if you do choose the CD ROM option, it will still require 15 MB of hard disk space

Back in Sept. 1993 we speculated about what features Corel could possibly put in Corel 5.0 to outdo the feature set of CorelDraw 4.0 Only half jokingly, we pondered whether Corel should build in a PostScript interpreter add the ability to use Photoshop plug-ins allow it to load files from DTP packages include lighting and 3 D effects, and so on Well guess what? They did

Sure, CorelDraw has about a million features. But, the big question is. how do they work?

We ran CorelDraw 5.0 through an extensive battery of tests to compare the promises with the reality Here's what we found

Importing and exporting functions are as usual, a weak area for Corel. For example Corel's filter for importing Macintosh PICT files imports them backwards and upside-down. So who did the beta testing on that one guys?

We had much better luck when we attempted to process EPS files with the new interpreted PostScript option Everything we threw at it worked like a champ, including files created with the new version 5 of Illustrator and version 4 of FreeHand. We also tested bitmapped EPS files saved in both PC and Macintosh formats CorelDraw's PostScript interpreter even successfully rasterized EPS files that were saved in a format that will only print on a PostScript Level 2 printer — evidence that the interpreter is at least partly Level 2-compliant. We'd rate the PostScript interpreter as top-notch.

➤

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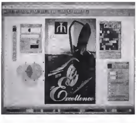

CorelDraw 5.0's best feature may be its stellar implementation of Lenses—transparency functions that affect both vector objects and bitmaps

In other tests of the import filters, the only problems we noted occured with grayscale and CMYK JPEG files. Although RGB files imported properly, even the smallest grayscale JPEGs gave a "Temp drive may be full" error though our test PC had 76 MB of disk space free and a 20MB permanent swap file. That's a bug, or at least a noteworthy limitation in Corel's JPEG implementation.

The verdict: thumbs down for JPEG and PICT import filters, thumbs up for the rest.

We noticed that the program sometimes produces objects containing more than 1000 points. This can create problems when printing or exporting to other programs such as Aldus FreeHand.

Text Handling

The speed of text redrawing is dramatically faster than previous versions of CorelDraw. The addition of the high-quality fonts and additional page-layout functionality in version 4.0 left a lot of people attempting to use CorelDraw as a page-layout program. Unfortunately, CorelDraw 4.0's insistence on converting all text into graphic objects (outlines) meant that documents with more than a few words on the page were brutally slow to redraw.

CorelDraw 5.0 dramatically improves things in this area, as it now treats text as — well, text. The redraw speed of graphics objects is perkier than that of version 4, too.

Our favorite new feature of CorelDraw 5.0 is the lens feature. This is an amazing innovation that, quite frankly, blows anything else on the market away. You can lay CDR vector objects on top of other objects with effects, such as transparency, grayscale, magnification, etc. Great — Aldus IntelliDraw can do most of these things too. But you can layer vector objects and full-color bitmaps, and the transparency effects affect the bitmap as well. Ooh, ahh.

The fractal fills introduced with CorelDraw 4 have been enhanced with version 5. Now, fills can be used in virtually all of the Corel modules, and the fills are more beautiful than ever. If the "organic" look is the next wave in computer graphics, CorelDraw's ready for it.

Just for the record, certain functions in the program require that it be run in 386 Enhanced mode. So, PowerMac owners can dabble with running CorelDraw under Windows emulation, but attempting to use CorelDraw's Interpret PostScript or JPEG import filters when Windows is running in Standard Mode produces an error message: "not running on a 386 DPMI implementation."

Test Methodology

Corel says that the program's minimum requirements are a 386 with 8MB of RAM. We tested CorelDraw on several systems, ranging from an 8MB 486SX/33 to a ➤

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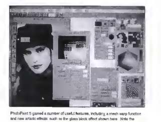

PhotoPaint 5 gained a number of useful features, including a mesh warp function and new artistic effects such as the glass block effect shown here. Note the Preview buttons in many of the dialog boxes.

486DX/66 with 32 MB of memory. Performance on the latter was great. What? You're not surprised?

Just for interest's sake we tested it on a 486SX/25 system with 4MB of RAM. Well, they were right. Although it did work, it crashed a little too often to be useful.

On to PhotoPaint!

Corel has apparently noticed that the new PhotoPaint is hot, because it has announced that the program will soon be available separately for about $300. While there are several important functions that it lacks compared to, say, Adobe Photoshop, it also exceeds Photoshop in a few ways. Most notably, it allows multiple floating selections (similar to Picture Publisher 4.0, reviewed in the June '94 issue) and can load just part of a large file. And it now supports Photoshop plug-ins! Kai's Power Tools, here we come ...

Ventura — Down the Highway

The company had planned to include Corel Ventura 5.0 in the package but, according to Corel CEO Dr. Michael Cowpland, it wasn't stable enough to ship. The package includes a free upgrade coupon; the company says it will ship when it's ready.

Other Modules

A number of the other modules in the CorelDraw package have been enhanced, too — most notably, CorelMove has added morphing features similar to those in Gryphon's Morph (see the review of that program in the June '94 issue) and CorelChart has added over 250 spreadsheet functions. A Corel spokesman pointed out the almost absurdity of this number by explaining that CorelDraw now has more spreadsheet functions than Microsoft Excel.

CorelDraw 3.0: all the program you really need?

It can be convincingly argued that CorelDraw 5.0 is a bloated monster, and that CorelDraw 3.0b was all the drawing program any of us ever really needed. However, we like CorelDraw 5 better than any previous incarnation. Although far from perfect (heck, it's not even consistent!), the user interface is better than ever and Corel has managed to add a bevy of features without sacrificing ease-of use.

It also works better than previous releases, flaky import filters and features you'll never use notwithstanding. Its built-in PostScript interpreter will help users produce stunning printed output from inexpensive printers; its paragraph text performance will be a godsend to those who were struggling to use CorelDraw 4.0 as a DTP package. (This situation will only improve with the eventual inclusion of Ventura 5.) The developers also paid attention to the concerns of high-end users, with Panose font matching, CMYK image conversion and editing, color correction and PhotoCD support, and so on. Downloading fonts from previous releases was a nightmare; version 5 handles this task with aplomb.

The Good

- Much faster paragraph text handling
- 60 new textures, 825 fonts and 22,000 (!) pieces of clip-art
- PhotoPaint has been dramatically improved
- Mosaic now allows drag-and-drop importing
- Nifty lens effects break new ground
- PostScript interpreter built in — Level 2 compatible
- Includes Ventura 5
- Morphing effects in CorelMove
- Color management system built in
- The manual is Corel's best ever, with plenty of color illustrations and clearly laid out info. Of course, we still expect to see about a hundred "Corel5" books.
- We did not have to wait long for technical support calls to be answered. Corel's tech support department was helpful and called us several times while attempting to solve our problems.

➤

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The Bad

- Still only one document open in CorelDraw.
- Corel Ventura wasn't ready in time; box includes upgrade coupon.
- Although the user interfaces of the various modules have been standardized somewhat, they still use different function keys to perform the same functions. Duh!
- In a telling sign of how little it costs to produce a CD-ROM disc, Corel doesn't even include jewel cases for the three discs in the package.

The Ugly

- Installation failed on one of our test machines; Corel was unable to determine why.
- As is typical for initial release of Corel products, there are a number of bugs in the import filters.
- You get only one free technical support call. With its new pay-per call technical support program, we can't help wondering if perhaps Corel is counting on a little extra income.

Summary

Is it viable to upgrade now?

Welll ..

Based on past releases, it's probably safe to say that Corel will crank out at least two bug-fix updates. By the end of the year, the program will probably be "all here," the Ventura Publisher upgrade will be sent out, and CorelDraw will rule.

Until then, though, we recommend that if you do upgrade, you keep an older version around just in case. We think that most users will find it stable enough to actually use, at least for its new features like the lens effects and PostScript interpreter.

If you do find a problem we haven't mentioned here (the package is so huge, that's virtually a certainty), there's always the safety exit. You can save files in CorelDraw 3 or 4 formats (mercifully, the program is backwards compatible with both releases) and continue work on the files there. Of course, if you enjoy being on that bleeding edge...

In summary, we like this release a lot, if you are willing to put up with a few frustrations. CorelDraw is the best buy in PC graphics packages on the market today. ❑

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CorelDraw and Chicago

The CorelDraw development team have obviously been working with Microsoft's Chicago (Windows 4.0) for a while.

The Chicago influence shows up throughout the program, in some very nice ways. Corel uses "Tool tips" to provide helpful hints on what icons in the toolbars and toolboxes of the various modules do, and virtually every dialog box exploits the "tab pages" metaphor that Microsoft pioneered in Microsoft Word 6.0, and goes to town with, so to speak, in Chicago.

Another Chicago feature (OS/2 fans might argue that it's their feature) that is nicely implemented in CorelDraw is the use of the right mouse button to bring up a list of shortcuts related to the selected object. It's unfortunate that these shortcuts don't always include every attribute you might want to change, but in a program with the scope of CorelDraw, that's hardly realistic. ❑

Trivia: Is it just us, or does the bar-chart graphic that graces the startup screen to CorelChart bear a striking resemblance to downtown Vancouver?

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Two For The Page

Low-End Desktop Publishing

BY GORDON GOBLE

Microsoft Publisher 2.0

From Microsoft Corp
System requirements
286 or faster processor
4MB RAM
VGA display
DOS 3.1 or higher
Windows 3.1 or higher
13MB free disk space (for full version)

PFS:Publisher 1.1

From Spinnaker Software Corp
System requirements
286 or faster processor
2MB RAM (4MB recommended)
VGA display
DOS 3.1 or higher
Windows 3.1 or higher
8.5MB free disk space for installation
(6.5MB installed size)

PC Desktop Publishing certainly ain't what it used to be. Indeed, it has been a five year influx of competent What-You-See-Is-What-You-Get technology and an increasingly capable stable of text and graphic based programs that have been almost solely responsible for that already tired phrase. Two such packages will be critiqued here: Microsoft Publisher Version 2.0 and PFS Publisher Version 1.1.

While appealing to the relative newcomer, both programs present features and capabilities that may well interest even those who are gainfully employed putting their ideas and images down on paper. And at an average street cost of $140 or less per program (compared to $700 and up for the aforementioned PageMaker), the price is most definitely right.

Microsoft Publisher 2.0

If there is currently a better buy in the software marketplace than this, the latest version in the Microsoft Publisher line, I have yet to see it.

Microsoft Publisher 2.0 contains something for everyone — from a superb primer on the subject, to a thorough DTP tool for the indoctrinated, and all things in between.

Beginners will be taken by the hand and led through the basics, from placing text on a page, to the construction of an appealing layout, proper graphic usage, and ultimately the final production of a completed masterpiece. Alternately, budget-conscious professionals may just find that MP offers enough versatility, enough oomph to be the perfect addition to their toolkit.

For those new to the DTP game, MP incorporates a bevy of aids that will virtually guarantee a quality product right from the outset. For starters, the MP manual includes a 27-page hands-on tutorial on DTP in general and MP in particular. Written with its novice audience in mind, the MP tutorial is a great introduction, and combined with a visual Introduction to Publisher and a series of Online Demonstrations, is a feature that the rookie DTPer should not ignore. But this is just the start in an incredibly comprehensive series of MP learning aids.

Continuing a trend begun with Version 1.0 of the Publisher line, MP 2.0 has retained its Page Wizard feature. If selected, Page Wizard will ask the user questions regarding the desired final product (be it a brochure, envelope, simple logo, even an origami drinking cup). The program then creates the basic layout/design skeleton, leaving the user to merely fill in the blanks. If further step-by-step assistance is required, MP 2.0 has supplied something it calls Cue Cards. These

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nifty little on screen prompts will pop onto the screen when needed asking questions and supplying answers to a wide range of common problems. Microsoft has even added a "save your work message" in which a quick reminder pops onto the screen at customized intervals, from one to 999 minutes.

SPRING.cgm STAR cgm

From Microsoft Publisher clipart collection

In addition MP dialogue boxes come equipped with single paragraph Helpful Hints and Design Tips and the MP Help files are both informative and extensive. Even the horrors of incorrect printing have been alleviated. After each job has been sent to the printer a dialogue box will appear asking if the results were as expected. When they are not MP sends the user to Printer Troubleshooting land wherein many of the most common printing problems are discussed in simple terms — the end payoff being that a bad result is almost guaranteed not to be the fault of the software (is that subtle enough for you?)

Fortunately for those with a little more experience MP permits most of these learning tools to be switched off. And that's good, because the seasoned professionals who may well end up using this versatile program won't want to be bothered with the momentary distractions they cause. And with the combination of quick learning curve and rock bottom price those in the business may well want to take a close look.

At 12 MB of installed size MP is well-endowed — 150 clip art images, 20 distinctive True Type fonts (which automatically install in the Windows System directory for use in other Windows programs such as word processors and drawing packages), assorted shapes borders and templates all contribute to the hard drive hunger of the program. Most assuredly MP 2.0 is made up of a whole lot of stuff but it's what can be done with all that stuff that impresses.

MP is a world of shortcuts. Clicking the right mouse button on any object (whether text or graphic) conjures up a quickie menu on that particular object relating various properties and allowing for modifications such as cutting, copying, highlighting, resizing and the like. The time-saving aspect of this function makes it a most welcome innovation as is the MP mutating cursor. Just to let you know that you've chosen the proper handle on an object the cursor may change to 1) a little moving truck, 2) double sided arrows displayed alongside the instruction "resizing" 3) scissors (for cropping) or 4) a little tea cup (short and stout - tip it over and the words pour out) when flowing text from frame to frame. Further time saving visual references include the "two unconnected jigsaw puzzle pieces" button that makes its appearance when several objects are selected at the same time. Click the button and voila, the jigsaw pieces are interlocked and the objects are grouped!

But it is the ease with which text may be formatted and transformed that sets a good DTP package apart and MP allows for virtually any possibility. Although frames must still be placed on the page prior to the actual addition of text, auto-flowing words from frame to frame has rarely been easier or smarter. MP can automatically insert 'Continued on' and 'Continued from Page Blank" notices text frames may be auto disconnected if a new story is begun and an appropriate number of new frames will be automatically created if so desired for large blobs of imported text. A thorough spell checker is included, but the omission of a thesaurus was a most curious decision.

Text kerning is available in pre-defined amounts (i.e., "very tight" to "very loose") or manually in exacting increments all the way up to 6.94 inches spacing between the selected characters. Shaping, molding, rotating, and fitting text to a path are accomplished by selecting the MP WordArt tool, entering the text (in limited doses only) and performing the operation. Shadowing in a variety of shades and placing white text on a black background are other impressive special effects.

MP will automatically insert "smart" quotation marks for the default uni directional keyboard ones and allows for both soft and auto-hyphenating. Text Wrapping has more variety than ever before: wrapping can be made to conform around either an object's frame or its actual boundaries and variable gutters can be manipulated for that customized appearance. A comprehensive table tool is available for those requiring a more systematic ordering of information and/or pictures and the MP Style function will duplicate specific page or job layouts anywhere desired.

A wonderful addition to Version 2.0 is the Zoom button (located on the bottom scroll bar). Zooming is now just a single click away and ranges from 10-400 percent with eight stops along the way.

On the downside, purchasers of MP 2.0 will need a fast graphic setup and a lot of RAM as pictures introduce a certain sluggishness that can be downright frustrating. But that aside Microsoft Publisher 2.0 is an extremely intuitive DTP package layered deep with most of what is required to make a lasting impression. That sort of "bang for the buck" is worthy of high praise indeed.

PFS Publisher 1.1

Speaking of "bang for the buck" PFS Publisher offers a little less bang than Microsoft Publisher 2.0 but then again requires a little less buck (averaging 20 percent less than the already inexpensive MP). Jaded pros should look elsewhere, but PFS Publisher will perform most basic needs with amazing expediency (this program loads and saves in a nano-second!) and does have a few neat tricks up its digital sleeve.

At 6.5 MB of installed size, PFS takes up a shade more than half the hard drive space of Microsoft Publisher, yet includes 100 clip art images, 12 True Type fonts and a couple dozen templates. The sizable PFS manual is smartly presented and contains nearly 100 pages of what can be considered introduction/tutorial. Starting from "What is Desktop Publishing?" through "What Is a Window?" and a detailed 70 page look at the intricacies involved in assembling a newsletter PFS walks the fledgling DTPer through the basics

➤

with aplomb Absent are the on-screen aids of MP (PFS does not have its own version of Page Wizard Cue Cards, etc) yet the first few chapters of the PFS manual should cover most of the territory that is required knowledge for the newcomer and are useful as a reference guide

From initial view, there is little to differentiate between the two products reviewed here both interfaces are set up in traditional style, with horizontal scrolling at the bottom, vertical up the right side and a button bar across the top But in application there are some distinct differences.

PFS operates in one of two modes, Object or Text One or the other is always active and although this structure takes a little acclimatization, it 1) permits the display of more tools and 2)

From PFS Publisher clipart collection

displays tools only for the task currently at hand, eliminating confusion

When in text mode PFS users will find many of the same functions available to them as in a basic word processor including variable text wrapping, a spell checker and a thesaurus While the inclusion of said thesaurus is obviously an advantage over Microsoft Publisher and other medium to low end DTP packages advanced text effects (such as stretching white on black fitting text to a path) are not possible and are sorely missed But flowing text from frame to frame is a snap, as is individual character kerning structured on a point size percentage basis

Like Microsoft Publisher graphics are dealt with in an authoritative manner most common file formats may be imported and exported and Object Linking and Embedding is fully supported. PFS also offers something called a Catalogue which works in much the same fashion as Corel Mosaic allowing one to review thumbnail sketches of both graphic and text files. To say that the handling of graphics in this level of DTP package has seen improvement in the last couple of years would be a gross understatement

Hearty congratulations to Spinnaker for the inclusion of something they call a QuickButton Palette, a block of single-click button commands that can be customized by the individual user Pasting, zooming page setup and object information are just some of the 24 commands that can be just a mouse click away The QuickButton Palette can be moved about like any other window, or hidden from view This is a superb innovation that should be mandatory in any software package

However there are some nasty quibbles with the PFS package that just won t go away Scrolling for instance becomes painfully slow at increased levels of zoom. Page handling capabilities were questionable as well Although I found it difficult to ascertain just how many pages could be handled in a single file PFS only permits the user to Go To pages with two or less digits so one would assume that 99 pages is the workable cut-off point On a more positive note, PFS allows vertical scrolling of all the pages in a given publication. not just the current and facing page

But the biggest knock against this program stems from the glaring omission of an Undo tool (although an Undelete function is present) This is something that experienced Windows users will find almost impossible to come to grips with and is a serious problem As is the exclusion of a "quick access file menu", meaning a little more time and mousing is required when picking between files (and after a substantial library of files have been built, the inherent delay can be annoying)

In summary, it is what has been forgotten as opposed to shoddy workmanship, that keeps the PFS package little more than ordinary A couple of years back, PFS Publisher 1.1 would have rated a higher total score, but Microsoft Publisher 2 0 has set new standards for mid-range DTP packages, and cannot be ignored However, PFS Publisher doesn't cost much more than a dinner and a movie and can be considered a worthy option for the earnestly budget-conscious. ❑

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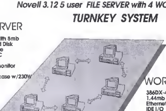


SOFTWARE

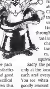
Iconic Distractions and Other Windows Silliness

BY GORDON GOBLE

Title: Do It On Your Desktop
Icon Make-It
Icon Do It
From: Moon Valley Software Inc. 21608 N 20th Ave Phoenix, AZ 85027
ph 602-375-9502.

Surely we've all had experience with super programs so deep and multi-layered that all we fallible bipeds have to do is initiate action add data and gaze in wonder as millions of calculations transform raw material into a practical finished product, the value of which is immeasurable

The merit of such software will not be analyzed here For it is Phoenix based Moon Valley Software that lies squarely in the spotlight and Moon Valley Software is in the business of manufacturing the antithesis of the above



As a matter of fact, the triumvirate of programs we'll be holding under the microscope have no measurable practical application whatsoever (with the part-time exception of one) They are neither of the gaming genre nor can they be considered computer utilities as utilities generally make computing a little easier for us all

Yet Do It On Your Desktop, Icon Make It and Icon Do It — three packages whose value lies in on-screen esthetics only — may well add a little fun and good humor to your world of Windows (specifically version 3 1 or better) Indeed even this jaded reviewer was tempted to retain one or more of the Moon Valley Software offerings aboard his computer on a possibly permanent basis With the preceding caveats in mind let's begin

Do It On Your Desktop

System requirements 386 or faster processor 2MB RAM VGA display Windows 3 1 or higher 2.5MB free disk space mouse

Aimed at Windows users who are fussy about the layout and appearance of their interface Do It On Your Desktop also offers some marginal practical enhancements to the Windows environment. But the system information this program relays takes a back seat to its visual alterations

DIOYD is packaged onto a single 1 44 MB diskette and its hassle-free installation takes about two minutes on a 486-33 Once the program has been loaded, Program Manager will immediately mutate Fancy frames will surround Program Group windows fancy fonts will spice up titles and new colors and background bitmaps will replace the yawners included with Windows Additionally, a "Systometer" button bar will appear, acting something like a combined fuel gauge/speedometer/odometer/clock in a car, but more on that later

Special effects at the launch, minimization maximization, or close of a given application may take the form of exploding spinning, and swirling windows This option can be switched on or off or customized at one's discretion, as can be virtually everything else in DIOYD

If default window frames, fonts etc are not immediately to one's liking, there are plenty of choices Frames can become art gallery thick or pencil thin, and made of bricks, wood art deco motifs and more Titling type styles can be changed to any font on one's system and a number of varying styles of wallpaper are included.

Of a more useful nature, Program Groups can be sized automatically to fit the number of icons inside and icons can be rearranged alphabetically or in any other manner

But the most intriguing aspect of DIOYD is the Systometer metering readouts. The Systometer is a multi-level gauging system that details current available resources and the like Available hard disk space free RAM CPU strain date time, mouse travel and keystroke count are some of the bits of information made readily accessible through the Systometer Even the units of measurement can be changed (for instance mouse travel can be displayed in inches, feet, miles, or their metric equivalents)

Sadly the price for DIOYD won't be paid only at the local computer shop but during each and every computer session as well You see when in operation, DIOYD eats a goodly amount of the very resources it measures and therefore retards most operations fast machines a little and slower machines much more Fortunately Moon Valley has seemingly recognized this, as DIOYD can be unloaded from memory with no more than two keystrokes.

Do It On Your Desktop is an attractive enhancement package that will dress up one's Windows appearance and although some may say "why bother", others may find the Systometer function provides invaluable and accessible information This combination of esthetic and practical value makes Do It On Your Desktop a moderately interesting proposition - smarter than your average fluffy bear, Boo-Boo

Icon Make-It

System requirements 286 or faster processor 1MB RAM (2 MB recommended) VGA Display Windows 3.0 or higher 2MB free disk space mouse sound board (and microphone to record sound)

Icon Make-It is a special effects program for icons within the Windows world Users are encouraged to create animated, audible icons for their Windows applications therefore ridding the world of the evil inanimate variety that far too regularly rear their ugly little heads

Seriously bitmapped animation can be an enjoyable distraction and despite the inherent silliness of this program Moon Valley Software has treated the entire procedure much like a movie making experience, and has created a whole new world where none had previously existed Whether this is a good thing or not is purely a matter of individual taste

The Icon Make-It process is initiated with one of the 200 clip-art icons provided, or the ➤

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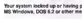

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conception of a custom icon through the included pixel editor If design is not the forte of the budding "producer", a unique "snapshot" utility is ready to convert any graphic on the screen into an icon A "screening room" permits the manipulation of the icon in a wide variety of ways (shift, melt, shatter, dissolve etc) until the desired effect is achieved.

Final touches are applied in the "sound track" room where a software "tape deck" will record custom .WAV files to apply to the finished icon "short" (Numerous sound files have been included for those without imagination or a microphone) Although the animator and snapshot tools are novel ideas many of the editing tools (pixel editor tape deck etc) are mere variations on utilities that already come with Windows.

Icon Make-It comes bundled with another Moon Valley icon lovers product Icon Hear It Lite thus allowing for the above audio modifications. The entire package is a step above Moon Valley's Icon Do It (review to follow) and will certainly hold interest for a greater period of time Icon Make-It makes the grade for parent/child combos computer newcomers, and those certain creative individuals with a lot of time on their hands. But be forewarned The more animated icons that are concurrently active, the slower the whole computing process becomes.

Icon Do It

System requirements. 286 or faster processor 1 MB RAM (2 MB recommended) VGA display Windows 3.0 or higher 2 MB free disk space mouse.

As the name suggests, Icon Do It is an oddly similar package to Icon Make-It (see above review) and confused consumers may be left asking "Why couldn't all this have been bundled together?" While custom animation and the addition of sound to one's icons is not part of the Icon Do It package, it does include a bunch of other nonsensical stuff

Compatible with both Windows and Norton Desktop, Icon Do It not only allows us to play with our icons, but tackles the even more basic domain of cursors to boot. Icon Do It consists of 200 static and 25 animated icons, 50 static and 10 animated cursors, then throws in 10 wallpaper patterns and four not-so-wonderful screen savers for good measure

If one fully implements Icon Do It, CorelDraw balloons will quietly drift across their tiny space digital fingers will push Calculator buttons, F16 fighter planes will blow apart tiny little rivals and more Cursors will turn to rockets and flash across the screen, or pirouette as miniature ballet dancers Why, it's all so cute and absorbing that I almost forgot to write this review

On the downside my cursor continued to transform into "Gumby" even after Icon Do It had been removed from memory, and my CorelDraw! icon wouldn't animate if said program was open While the latter quibble is of little importance observing Gumby clay-o-mating his way across the screen over and over again (until the computer was rebooted) remains one of the most annoying incidents in my recent memory. Yuch!

If increasing the cute quotient of your personal computer is on the agenda head for the more advanced Icon Make It and leave Icon Do It on the shelf ❑

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Opening the Video Pipe With 64-bit Cards

BY JAMES MACFARLANE

Multimedia is a very processor-intensive application, especially when it comes to animation, 3D graphics and digital video Even small video screens of only 320 by 200 pixels with 256 colors mean moving up to half a megabyte of data per frame Doing this at a rate of 12 to 30 frames per second quickly becomes a staggering amount of processing, especially if the image data needs to be decompressed

A machine without enough horsepower to deliver this type of data stream gives the user either smaller viewing areas or jumpy motion Now video board manufacturers are overcoming the bottleneck of graphically oriented applications with the introduction of 64 bit local bus video cards

Why local bus?

Back when IBM came out with the first PC it had a 6 MHz bus The "bus" is the data path between the CPU and the "slots" where you plug in peripherals such as your video card, hard drive controller and CD-ROM Back then the CPU itself ran at only six MHz so a six MHz bus was sufficient. An eight MHz version was introduced with the IBM XT The bus was called ISA — Industry Standard Architecture

Later, when 286/AT class machines came out the CPUs began to get faster 10 12, 16 MHz. The bus had to remain at 8 MHz in order to maintain compatibility with all the plug in cards that were already on the market As 386 and 486 machines came out, the gap between the 8 MHz bus and the 25 50 MHz CPU became crippling The CPU had the power of Niagara Falls but could only deliver it through a drinking straw

Local bus technology uses a 33 MHz bus and has a wider data path 32 or 64 bits of data can be moved simultaneously The ISA bus can only move eight bits (XT class) or 16 bits (AT class) at a time. There are other technical advantages to local bus technology as well

More bits means faster video

Two things makes these new video cards faster the speed of the bus which allows the data to move from the CPU to the card faster and the 64-bit internal structure of the card itself A 64-bit internal structure means the video chip or video coprocessor can move data to its on board RAM in chunks of 64 bits at a time

A simple way to compare these local bus cards with standard ISA video cards is with this relationship POWER = PATH x CLOCK An ISA card has a 16-bit path and an 8 MHz clock, for a power rating of 128 compared to the local bus card with a 64 bit path and a 33 MHz clock, for a power rating of 2 112 A big difference, obviously.

The true performance of these cards varies from model to model Manufacturers are using the Ziff Davis WinMark 4 0 test to compare the speed of their own models and their competitors Three manufacturers are now shipping 64-bit cards ATI Technologies of Toronto Ontario, Matrox of Dorval Quebec and Diamond Computer Systems of Sunnyvale, California ❑

Viper Pro by Diamond

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ATI Technologies	Graphics Xpression	34 9	$399
Diamond	Viper Pro	26	$369(US)
Matrox	MGA Ultima	40	$448

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Short Take: Six 64-bit Cards

ATI Graphics Pro, Xpression

Toronto-based ATI offers two 64-bit graphics accelerators, the Graphics Pro Turbo and the lower-priced Graphics Xpression, both use ATI's own Mach64-series chip.

The Graphics Xpression uses DRAM as opposed to the more expensive VRAM targeting the product at the home user who requires 64-bit performance but doesn't require higher-priced VRAM-based boards. The Graphics Turbo Pro, on the other hand, does use VRAM and also provides higher resolutions in 24-bit color because it can use 4MB of RAM while the Xpression uses only two.

The performance of the two boards is similar in 8-bit (256 color) mode while the Graphics Pro Turbo is designed for high performance in 24-bit color as well. Graphics Xpression is priced at $399. The Graphics Turbo Pro starts at $599. *(ATI is sending us one of its 64 bit graphics cards, so we hope to have a full review of it in a future issue — Ed)*

ATI Technologies (905)882-2600

Matrox Impression Plus, Ultima

Montreal's Matrox Electronics has introduced the high performance Impression Plus card and also dropped prices on its Ultima series of 64-bit video cards and

The Ultima series provides up to 40 million Winmarks and provides advanced features such as on-the-fly color and resolution switching, virtual display space for resolutions of up to 1600 by 1200. The units come in configurations for either PCI or VESA local bus. The Ultima comes with 2MB on board but is not upgradable, the Ultima Plus provides upgradability to 4MB. Starting prices have been cut to $449 from $599.

The Impression Plus provides a high-end video accelerator with add-on options for 3D graphics and video applications. Impression Plus is capable of 24-bit color at resolutions of 1280 by 1024 at a 90Hz refresh rate.

The card offers accelerated 3D capabilities with the application through the use of double-buffering and a optional PowerPlay64 chip promises 30 frame per second video playback at resolutions of up to 1280 by 1024. The card also has a VESA Media Channel connector, which can provide direct 32-bit video I/O ports for future expansion.

The Impression Plus starts at $599 with 2MB upgrade for the PowerPlay64 is $149 and will be available later this year.

Matrox Electronic Systems (514)685-2630

Diamond Viper Pro, Stealth

Sunnyvale, CA-based Diamond Computer Systems' Viper Pro video accelerator card uses the Weitek P9100 graphics accelerator to provide high performance video for graphic intensive applications. The P9100 has 64-bit architecture and provides 24-bit color at resolutions of up to 1280 by 1024 and 65,535 colors at 1600 by 1200 resolution. The unit also supports screen refresh rates of up to 120Hz.

This workstation grade card promises a performance of 26 million true-color Winmarks (tested with Winbench 4.0 on a 66Mhz Pentium system) as well as handy software-based settings controls. The InControl Toolbox is a Windows utility that allows the user to change screen resolution and color configurations on the fly without the need to change Windows drivers. The Viper Pro is capable of transferring data at speeds up to 132MB/sec. The unit lists at $833 with 2MB RAM and $972 with 4MB RAM.

Lower on the price scale is Diamond's Stealth 32 PCI card offering 16-bit color at up to 1280 by 1024 resolution. The card is designed to match the price/performance requirements of the person who wants higher speed but doesn't have the demands of professional grade imaging. It comes in one and two megabyte configurations. The 1MB units lists at $277 and 373 for the 2MB version.

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book*review*

One of the Best Internet Guides Gets Better

BY KEITH SCHENGILI-ROBERTS

Title	*The Whole Internet User's Guide and Catalog 2nd Edition*
Author	Ed Krol
Publisher	O'Reilly & Associates
Price	$24.95 (U.S.)
Softcover 543 pages 1994	

The first edition of *The Whole Internet User's Guide & Catalog* sold over a quarter of a million copies. This launched scores of imitators few of which came close to the quality of the original. This edition adds a lot of new material over the previous edition — more than 200 extra pages and many more useful diagrams and screenshots. It is still one of the best books about the Internet around.

Not surprisingly much of the text in this book has been carried over from the first edition, which was originally published in September 1992. Since that time the Internet has expanded, not only in terms of the number of people using it, but also the tools that are on it. Many of these new tools are covered in this edition, including such things as Veronica (which allows you to query Gopher sites for information) Mosaic (a hypermedia link to the World Wide Web) and MUDs (Multi-User Dungeons designed for people with a taste for role-playing). The one thing that has always separated this book from its imitators is author Ed Krol's writing style, which manages to inform the reader on how to use the various tools available on the Internet in such a way so that you are left with a "feel" for how the Internet works.

In addition, Krol has added more extensive listings of local Internet access services in North America including many Canadian providers. There are also sections devoted to the basics of the Unix operating system, a summary of international Internet connectivity and how to determine the type of Internet services to suit your needs.

The new edition of *The Whole Internet User's Guide & Catalog* is still one of the best books on the subject around. If you are going to get any book about the Internet put this one at the top of your list. Accept no imitations. ☐

Contact O'Reilly & Associates Inc
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Encyclopedia Compiles Useful Tidbits

BY KEITH SCHENGILI-ROBERTS

Title	*The Online User's Encyclopedia Bulletin Boards and Beyond*
Author	Bernard Aboba
Publisher	Addison-Wesley
Price	$42.95
Softcover 806 pages 1993	

This huge thick book is a compendium of knowledge about going on-line and what you can expect to find once you're there. *The Online User's Encyclopedia* is a capable mentor intended to help guide people on how to connect to and use BBSes and learn the intimate workings of the Internet and its various tools. Despite the title this is not an encyclopedia but rather a collection of some of the more interesting tidbits about online communications.

At the beginning of the book the reader is warned not to think of this as a book to be read through like a novel but rather to think of it as a handy guide designed to help the user as they gain in expertise and knowledge over time. Pick up a section and browse through it and you are bound to learn a lot more about online communications. Much of the book is devoted to getting onto the Internet and what to do when you are there. It is also copiously illustrated with many of the pictures and diagrams serving as good aids to the accompanying explanatory text.

This book is not designed to cover everything in the communications world from "A" to "Z", and anybody trying to find a quick concise answer to any questions they have will come away disappointed. If you are looking into the specifics of how various terminal emulations work, or how modems use hardware flow control, you're not going to find them here. This book also has a real bias towards Macintosh communications. This is great for those users with a Macintosh, as there are few titles available on the subject, but many PC users will probably feel short-changed.

An encyclopedia it's not, but the book does succeed in covering the subjects it does look at in some breadth. If not with the conciseness you might want out of a book that calls itself an encyclopedia. It will tell you a lot about how and why bulletin boards work the way they do along with the basics of how to actually use them in practice. Any reader willing to sit down with this book and read through it will get a lot out of it.

The Online User's Encyclopedia is a useful guide to online communication in general. If you are looking for a guide-book to online communications that will continue to be useful as you gain experience and expertise this is a good book to invest in. ☐

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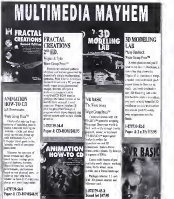

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book*review*

Metaman Explores Society as Organism

BY BEITH SCHENGILI-ROBERTS

Title	*Metaman The Merging of Humans and Machines into a Global Superorganism*
Author	Gregory Stock
Publisher	Doubleday Canada Limited
Price.	$29.95
Hardcover 365 pages 1993	

Picture a world where humans and machines unite, and where the individual is increasingly tied to others through technology In this world an individual becomes the functional equivalent of an individual cell in a body creating a global "superorganism" This is the central metaphor taken to the limit in Gregory Stock s book *Metaman*

Stock s background is in biology and from this he draws most of his ideas for the book. Stock sees Metaman as a living entity drawn together through the actions of people and technology to further the aims of human society as a whole. This superorganism calls upon the planet's natural resources, circulates and processes this material through itself and then co-ordinates its activities through a complex nervous system comprising telecommunications computer technology and people.

While this approach to human society and its technology is not a new one Stock has put things together with an interesting twist While the author stretches his "global superorganism" metaphor to the limit in places on the whole it holds up relatively well Essentially it gives mankind the responsibility of taking care of the planet, and shaping its future.

The Metaman theory works as an effective argument against the so-called "Gaia theory" in which a living Earth actively manages the living environment. In this scenario mankind is disturbing the fundamental checks and balances that already exist on the planet Instead of this Stock sees Metaman as an evolving organism that is increasingly, actively managing the resources of the world. The choice for humanity is that of global manager either we accept the responsibility to manage the world or leave things to chance There are signs that this is already happening — what used to be called "nature" is now thought of as "the environment", by definition a place that is actively managed and not left to chance The author argues that we must take action on issues like pollution and the population explosion if Metaman is to grow and thrive on Earth.

Key roles are played by computers and communications technologies in Metaman Stock argues that the deepening union between humans and technology is symbiotic in nature, so the old question of which will become the master and which the slave is inapplicable If the purposes and goals of a global superorganism are to be served, both humans and computers will choose to live together in a co-operative relationship each helping the other to survive and thrive.

So what are the roles to be played by the rest of the planet s ecology? Basically the rest of the ecosystem will play whatever kind of role or roles mankind and Metaman as a whole choose This leads to some disturbing conclusions This reviewer is unsettled by such comments as "even if half the world's species were lost enormous diversity would still remain While Stock is probably right, many ecologists would — rightly — say that this is not the point. The purpose of preserving an environment goes beyond the concerns of mankind Whether Metaman will take these into account over human priorities remains to be seen. Whether or not you agree with all the author says in this book, he does have a way of putting things into a new perspective

Gregory Stock has put together a well thought-out book on how mankind, technology and the natural resources of the world can work together and to what end How the final chapter of Metaman is written is up to us ❑

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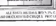

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Books Unbound

A Look at Some CD-ROM Literary Endeavors

BY ROSS MACDONALD

A book can be a real page turner But that may well be a thing of the past. Now a book can be a real PgDn er Despite the myriad of abilities that CD ROM affords us one of the most popular products from multimedia makers is quite simply books Anyone who shares my sensibilities might balk at this development I have always enjoyed the "thingness" of things — a book's binding, size, presentation and even weight influence and enhance the enjoyment of reading it. A CD-ROM, on the other hand is distinguishable only by whether or not the jewel case is cracked

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The Story of Civilization

This promises to be an exceptional World Library publication but it won't be shipping for another few months. However it's definitely something to watch out for Containing the complete 11 volume life work of Will and Ariel Durant the transfer to CD-ROM allows the extra advantages of 800 illustrations, audio clips and even video This is a phenomenal reference work that everyone should have as it covers the world's history and civilizations from prehistory to 1840 I always wanted the book version but couldn't afford it World Library benevolently solves that minor problem for a mere $100

Microsoft:

Everybody knows this software giant but surprisingly they haven't yet commandeered the literary scene with their characteristic monopolizing vigor They do however, publish a couple of good bookish titles

Continued on page 66

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Books Unbound

Continued from page 65

Encarta

The best seller CD-ROM of Funk & Wagnall's 29 volume encyclopedia — the reference of choice for supermarket shoppers everywhere. A nifty disk containing (according to the box) 1,000 articles, eight hours of sound samples of 60 languages, 7800 photos and illustrations 100 animations and video clips, 800 maps, 100 interactive charts an illustrated timeline and an atlas It s all good stuff too except the approach can only generously be described as adolescent. Any serious encyclopedia user will want information more sophisticated than either Funk or Wagnall seems capable of here However all that extra video sound and animation stuff — plus extensive cross-referencing abilities — makes this CD ROM well worth its Canadian street price of $125

Bookshelf

The most attractive thing about this CD compendium of standard reference books is that it sells in Canada for a modest $135. For that you get the American Heritage Dictionary, Bartlett s Familiar Quotations The Concise Columbia Encyclopedia, Roget's Thesaurus II, The Hammond World Atlas, The Concise Dictionary of Quotations and The World Almanac. Not a bad deal, except that anyone who's ever looked up a word and had to 1) load the CD ROM 2) launch Bookshelf 3) type in the word then 4) launch a search before 5) closing Bookshelf, 6) removing the disc then 7) getting back work (if you re not already on your computes forget it) has determined that normal books still beat these newfangled CD-ROMs in some departments One thing that real books can t do, though, is search through every volume for a specific name, word or phrase. Bookshelf 1, Books 1 Stay tuned.

Compton's New Media:

This established publisher is taking CD-ROM very seriously and producing a growing catalogue of titles. The two I've used are:

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The KGB/CIA World Factbook

This is an absolutely great CD ROM Kind of like an almanac but with real genuine spy info thrown in — government statistics, world economics, political and diplomatic protocol, treaties trade and even drug traffic. There s lots of graphics and sound and an easy search tool so you can cross-reference information on any or all of the 250 countries and territories in the inventory This one s just plain fun just plain useful and just plain $50

Infobusiness Software:

Not a well known publisher but they should be. Unfortunately nearly all their titles are Americentric Among their available reference book disks are Government Giveaways for Entrepreneurs The Computerized Data Base Finder The Great American Gripe Disk Job Powes Source Info-Power and The Ultimate Job Finder I have only one from this series:

Information U S.A.

The pitch for this one reads, "The Richest and Largest Source of Information in the World is the U.S Government Your tax money creates this trillion dollar information empire, why not use it?" And why not, indeed since us Canucks haven't even contributed Kind of dry when compared to the KGB/CIA World Factbook, you might still want Information U S A If you have — or plan to have — any dealings with the government down there You get details on every federal domestic assistance program and lists that include 30 000 free or low-cost sources of information plus thousands of data bases maintained by different departments and agencies. There's even a couple of hours of video to explain the best way to use this stuff Incorporating the contents of Info-Power, The Great American Gripe Disk and The Computerized Data Base Finder, this disk really gives you four Infobusiness book titles for the price of one: $70 A good buy for Ameri-o-philes. ❑

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Colombo's Canadians on Computers

BY JOHN ROBERT COLOMBO

I've been collecting "quotable quotes" connected with Canada since the year 1967 Looking back, I see that my first two books, *Colombo's Canadian Quotations* (1974) and *Colombo's New Canadian Quotations* (1987) had no quotes at all on "computers" It took me some time to catch on to the fact that the world including Canada, was and is being computerized right under my nose

I included eight lively quotes on computers in *The Dictionary of Canadian Quotations* published in 1991 Since then I have been on the lookout for bright remarks made by Canadians about such subjects as computer technology and the information highway

I now operate an IBM PS/1 and use Nota Bene software for my data extensive banks. This column of quotations devoted to computers and computer related subjects comes from those data banks The idea of scanning or even browsing tens of thousands of quotes that I have on file would be a giant's task, but with the aid of a computer with a reliable search feature it is child's play As it is, it took me 15 minutes to gather together these quotations Using the super-fast computers promised in the future, it might take all of 15 seconds!

Brain

To use a computer — even a relatively home spun one like mine — is to recognize the limitations of the genre The difference between a computer and the human mind is the difference between a filing cabinet and a garden

Arthur Black broadcaster and humorist, "It'll Never Replace the Ballpoint" *That Old Black Magic* (1989)

Computerate

Pretty soon our community college graduates will have to be literate numerate, and computerate.

Russell Elman educator, observation made at a meeting of the Task Force on General Education Mohawk College Hamilton Ont 1970

Computers

The issue then is not that everyone might be controlled by robots but that we will all come to think like robots and not be disturbed by that at all

Heather Menzies academic *Fast Foward and Out of Control How Technology is Changing Your Life* (1989)

Confederation

More than a century ago in 1967, Canadians celebrated the 100th anniversary of Confederation Little did they think that 117 years later, here in 2084 we would be celebrating an even greater historic event the Centenary of the Deconfederation of Canada, which occurred, as any school child with a computer information terminal is well aware back in the magic year of 1984

J.M.S. Careless historian futuristic Convocation address Laurentian University Sudbury, Ont , Nov 1979 *The Toronto Star* 6 April 1980 Brian Mulroney was elected Prime Minister in the year 1984

Cyberpunk

The word "cyberpunk" and the concept of "virtual reality" (computer stimulation of sensory experience) were introduced and popularized by the Vancouver science fiction writer William Gibson *in the title story of his story collection Burning Chrome (1980) he made them an integral part of his novel Neuromancer (1984).*

So wrote Tom Shippey "Inside the Screen" *Times Literary Supplement* 30 April 1993

Friendship

We are going to be able to develop genuine friendship with the advanced computers of the future That sounds crazy, I know, but just consider that in our ultimate constituents we humans are the same as the computer Both are simply configurations of electrons

Arthur Gibson, theologian quoted by Allen Spraggett in *The World of the Unexplained* (1974)

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Image

It may well be said that where the steel press may be taken as the image of Newtonian physics and mathematics the computer can be taken as the image of contemporary physics and mathematics

George Grant philosopher, "Thinking about Technology" *Technology and Justice* (1986)

Industry

Every country that has waited for the industry to develop "naturally" through the flux and play of market forces is waiting still Canada is as populous and as committed to education as some countries that now make semiconductors It had as much natural advantage for the semiconductor industry in 1980 as Korea did — indeed, much more, since it was richer better educated and closer to major markets and research centres in the United States Hong Kong 10 years ago had as much natural inclination for making semiconductors as Singapore — it was just as crowded, just as much influenced by Confucian culture The governments of Korea and Singapore deliberately cultivated the industry the governments of Canada and Hong Kong did not. Korea and Singapore now have a semiconductor industry Canada and Hong Kong do not

Governments may not be able to pick winners but they seem to be able to make winners

James Fallows U S economic writer "Looking at the Sun" *The Atlantic Monthly* Nov 1993

Intelligence

We've got to get used to the fact that man is not alone in the universe Man isn t the cat s whiskers An intelligent computer is as much made in the image of God as we are

Arthur Gibson theologian quoted by Allen Spraggett in *The World of the Unexplained* (1974)

Interactivity

Technology is changing us and it is not always for the best Inhale deep and smell whatever it is you like to smell There is a whole world out there and it isn't virtual It is real Turn off your computer for a while and interact Computer interactivity isn't nearly as interactive as the real world

Douglas Alder publisher and editor, "From the Editor" *The Computer Paper* March 1994

Manufacturing

If we are not our own competition, then someone else will be

Jack Tramiel, Polish born entrepreneur who from a typewriter repair shop in Toronto in 1955 developed the first hand-held calculator, established Commodore International Ltd and took over the Atari Corp in 1985 Quoted in *The Toronto Star* 6 Dec 1983.

Nerds

People with heads like computers are no wiser than people with heads like turnips

Louis Dudek, poet "Epigrams" (1975)

Society

Think of a stretch limo in the potholed streets of New York City where homeless beggars live Inside the limo are the air conditioned post-industrial regions of North America Europe the emerging Pacific Rim and a few other isolated places with their trade summitry and computer information highways Outside is the rest of mankind, going in a completely different direction

Thomas Fraser Homer Dixon head of the Peace and Conflict Studies Program at the University of Toronto, quoted by Robert D Kaplan in "The Coming Anarchy," *The Atlantic Monthly* Feb 1994

Software Bank

One of the things I really do want to spend some money on is setting up the Great Canadian Software Bank This is a pet scheme I ve had for years under which we would buy universal Canadian rights to all kinds of computer software We would then make it available to all Canadians free of charge.. The Software Bank would give them a resource base that would allow them to generate their own jobs

Dian Cohen, economist, contributor to *If I Were Prime Minister* (1987)

Spell-Check

And a further note a found poem from my spell check "Stopped at Ottawa Replacement. Oneiric"

Eric Korn columnist and antiquarian book dealer *The Times Literary Supplement* 15 June 1990

Technology

A millennium will date itself to the advent of computer technology The impact of computers on human development will be as important as that of the Renaissance

Michael Greenberg CEO of ISG Technologies Inc. quoted by Daniel Stoffman in "Northern Bytes" *The Globe and Mail s Report On Business Magazine* March 1993

Three R s

In the last age you learned the old three "R s" Now learn the new three R s Ram Rom and Run The next lesson will be the three C's. Conflict Crisis Change Kindergarten has just opened.

Frank Ogden futurologist "Ogden s Twelfth Law" *Dr Tomorrow s Lessons from the Future* (June 1989)

Typewriting vs Word Processing

Typewriters reward caution with fidelity word processors encourage a carefree facility only to betray it with grotesque calamities

Francis Sparshott philosopher entry *Contemporary Authors Autobiography Series* (1992) Volume 15.

Word Processors

The word processor I am working on goes along fine for a while but then, when I'm not paying attention it starts turning out utter nonsense which gets published and makes me look like a moron.

Joey Slinger humourist "Getting Even, *If It s a Jungle Out There Why Do I Have to Mow the Lawn* (1992)

Coming in future issues: More *Colombo's Canadiana on Computers.*

John Robert Colombo known as the Master Gatherer is the author compiler or translator of over 80 books Recent publications include Colombo s All Time Great Canadian Quotations (Stoddart) and The Mystery of the Shaking Tent (Hounslow / Dundurn) ❑

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Modem Standards a Modern Babel

BY JAMES MACFARLANE

Double standards? I went to Comdex last month and talked to as many modem manufacturers as I could. They seem to fall into one of two camps: either they're already selling V.FC 28.8 modems, or they're "waiting for the V.34 standard to be finalized." Yeah, sure.

Here we are, in the middle of another standards war. The problem is that the guys who are "waiting" have already lost the battle. The majority of manufacturers are sticking with the V.FC standard. While many V.FC manufacturers say they'll be upgradable to V.34, it doesn't matter: market forces will prevail and V.FC will become the non-official but de-facto high speed modem standard.

While talking to the "waiting" manufacturers I did get the distinct feeling that they simply haven't figured out how to make a V.FC modem yet. This includes well-known manufacturers like ATI, ZyXel and Digicom. These people all have one thing in common: they all jumped on the V.terbo 19.2 standard early in the game.

It doesn't make sense to me — on one hand they're waiting for the "official" V.34 standard implementation of 28.8 and on the other hand they've already chosen to support the non-official V.terbo standard. They should make up their minds.

Some good news, though: competition is driving down the prices for 28.8 modems. I saw a Boca Research modem in a Toronto store and it came with a high speed 16550 serial card for well under $400. Supra, Practical Peripherals, GVC and USRobotics are now shipping 28.8 product. The summer is usually the slow season for computer retailers, so keep your eye open for 28.8 bargains. Now is the time to seriously consider upgrading.

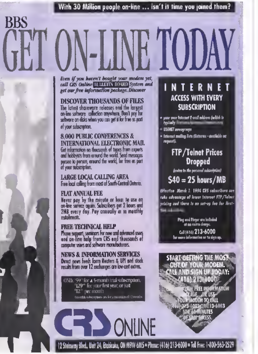
Still confused? Well, USRobotics may have the solution. If you've got US$595 to spare you can buy their Courier with V.EVERYTHING (great name!). It will accept calls from V.FC modems at 28.8 as well as connecting with V.terbo modems at 19.2, it's upgradable to the V.34 standard for free and it still talks to the old HST standard modems. It even has cellular data and fax capabilities, and rumors have it there's a two-slice toaster option.

Home office solution?

You've probably seen modems that support voice, fax and data. The problem is that they're not that smart — they can't tell the difference between different types of incoming calls. It can either be a fax, a modem or an answering machine but no combinations of the above. Great idea, poor implementation.

Now MediaMagic (formerly Austin Computers) and AT&T have a (get this) 16-bit Sound Blaster and Windows Sound System compatible board with CD-ROM controller, V.32bis modem, fax, Caller ID and voice mail and it can operate both multimedia and telephone functions simultaneously.

➤



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and it can distinguish between incoming call types. It's called Telemetry 32. The price only $US399.

The board does it all by using something called a DSP – digital signal processor – and a powerful one at that. DSPs are capable of simulating and analyzing complex analog functions. They bridge the gap between the digital world of computers and the analog world of audio signals. They're used extensively in PC sound boards and high-end modems like the ZyXel and USR Courier series.

The nice thing about DSPs is that they're programmable. By simply changing the software they can become a sound recorder/playback device, voice recognition system, a modem, a fax or any other analog device. The key to putting DSPs to good use is in how effectively and creatively they're applied. In this case it's the first time the common applications of DSPs in a PC have come together into a single integrated package.

The key in this case is using a DSP resource manager called VCOS. It sits as an interface and control layer between the application software and the board. It allows concurrent applications to time share the DSP. Standard Windows telecom and multimedia applications are compatible with the board.

Net Surfin

Want to check out some classic artwork but don't have the time to visit the Louvre? You can now visit the Virtual Louvre on the World Wide Web. Online you'll find JPEG images of works by Dali, Escher, Van Gogh and other famous artists. If you have access to the WWW, getting there is simple: "http://mistral.enst.fr/~ploch/louvre/"

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How about the weather? You can grab live satellite weather photos from the Weather Machine at the University of Illinois as well as other type of weather imaging and data. Check out "gopher://wx.atmos.uiuc.edu/1".

Want some fun stuff to read? Here's a collection of links to all kinds of interesting literature, science fiction and experimental topics, such as Lewis Carroll's Jabberwocky, as "recognized" by an Apple Newton — "http://www.seas.upenn.edu/~alwang/text.html" ❑

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OCUMENT MANAGEMENT

A Guide to Optical Character Recognition

Over the past several years there have been great advances in optical character recognition (OCR) technology. Most OCR software packages can now read clean documents with 99 percent plus accuracy. While certain "real world" documents (such as faxes and other degraded documents) still present challenges, most OCR packages also include features that dramatically improve the recognition on these everyday documents.

In general there are three major areas to look at when evaluating OCR performance: accuracy (the number of correctly recognized characters), output format (the look of the output document), and identified errors (which assist in the cleanup process).

Common Features to Evaluate

Optical Character Recognition (OCR) software packages offer a wide variety of features. Developers have been working to make the products more accurate across a broader range of documents, and more automatic. The ideal OCR package would recognize every word on every page in any type style, regardless of the quality of font or layout.

Besides the overall accuracy of the program, other features or modes of OCR programs to watch for include the following:

Unattended Operation and Two-Column Documents: How well does the software handle a basic business letter without any user intervention? How well does it handle a two column document?

Image Detection: OCR slows down considerably when it encounters photos (halftone images) because it spends time checking every dot looking for characters. OCR software should easily and reliably remove or ignore halftones. Dramatically longer recognition times could be caused by the software not having a halftone removal capability.

Automatic Operation: Can the OCR automatically segment a complex layout? Can it automatically orient the page (detect and compensate for upside-down pages)?

Previewing Document Zoning: Can you preview the page image prior to recognition? Can you manually zone in on only the text that you want to recognize?

Quality of Recognition: Every document has a different typeface, layout, and style and presents a different challenge for OCR. For example, business letters, poor photocopies, faxes (both paper to be scanned and on line from a fax modem), glossy magazine pages and newspapers each have different characteristics.

Ease-of Use: How hard is it to configure the OCR to process a simple document, or to change settings to handle more complex or poor quality documents? Is the user interface intuitive?

Output Options: After recognition, does the program offer a variety of output formats for all popular word processing packages? Does it retain format characteristics such as bold, centering, italics, etc.? Is the final result editable? (For example, hard-carriage returns for the sake of document appearance may make editing the output text more difficult.)

Input Options: Can it accept TIFF format files from a scanner or fax modem software, as well as drive a variety of scanners? Does it support TWAIN?

Integration: Does the application run as a stand alone application as well as allowing the user to integrate the character recognition into other applications?

User Interaction: Can the user interact with the character recognition to train the system to recognize distorted or degraded characters, thereby minimizing recurring errors?

Price/Performance: How well does the price of the product reflect the software feature set and capabilities?

Testing OCR Software

Selecting Test Documents

The documents selected for testing can have a major impact on the test results. Even the best OCR engine may perform poorly on any given document – or the reverse can occur. The reasons for these seemingly arbitrary failings may not be readily apparent. For instance, if a package has trouble with a fax document, it is hard to tell if the problems are with reading faxes in general or the particular document you have selected. For example, pages with tight kerning or that are printed on a dot matrix printer may appear clear to the human eye, but present distinct challenges to the OCR software.

The best way to ensure accurate results is to have as many test documents as possible. In particular, it is helpful to have two or more of each class of document (such as faxes, business documents, etc.) so that you can spot anomalous results.

Following are suggestions for a variety of document features that you may wish to consider. You can easily combine several "features" in a single document (e.g. a tilted photocopied document) to keep the total number of documents in the test set manageable. ➤

However, you do lose some information as to what specifically caused an OCR package to have trouble if you compound the number of elements in a single test document

Document Characteristics

Clean documents: These are laser printed or typeset original documents with a clear font such as Times Roman. Normally, this type of document serves as your benchmark because it shows each package at its best. Also, full pages of text give you more data than a sparse business letter

Photocopied documents: Folding a page and copying it a few times blurs the letters. Make sure the document is legible to the human eye. If you cannot read it, the OCR certainly will not!

Tilted (skewed document): Pages are often tilted after going through a photocopier, fax or scanner. An OCR application, however, should handle a reasonable amount of skew

Landscape orientation: Software should be able to account for orientation differences, ideally detecting this automatically

Fax quality: Fax documents require special consideration. Fax resolution is fairly low (100 x 200 dpi standard or 200 x 200 dpi fine mode, compared to 300 x 300 dpi or more for desktop scanners), which results in greatly distorted characters. Thus, "reading" fax documents may require the OCR software to use a different set of recognition experts for adequate accuracy

Conducting the Test

To ensure reliable and repeatable results you should create TIFF files of all your documents prior to starting the test. Slight differences in scanner brightness, page skew and the contour of the paper will produce variations in the recognition results if each page is scanned several times. A scanning application (or even one of the OCR applications) will allow you to scan the test pages to TIFF files, which you can then run through each of the OCR applications. This is especially important when testing fax recognition. Re-sending a fax will produce even more dramatic differences than re-scanning a document. Many fax software applications also allow you to save pages images as TIFF files

The most effective way to determine the number of OCR recognition errors is to have a 'Ground Truth' file for comparison. This is a perfectly correct version of the document you are testing. Alternatively, many word processors can be used to compare versions using their version comparison tools.

OCR accuracy is usually measured as the percentage of characters correctly recognized. This is the ratio of the number of correctly recognized characters divided by the total number of characters. When counting errors, you should decide in advance what exactly constitutes an error. For example, do you count the number of words with errors or the number of misrecognized characters? Since a user must usually correct all errors, having more than one error per word really represents more work. If two characters are merged together (i.e. "rn" recognized by the software as an "m"), is that one or two errors? If you see poor results, consider asking the vendor's technical support for help – support is part of the package

To measure the effectiveness of an OCR package you want to answer the questions: Are the results usable and did they save considerable effort compared to re-typing? The results of OCR are a combination of the raw accuracy (characters correctly recognized), the formatting (is the layout usable?) and the confidence of the output (did the system identify characters that it could not correctly recognize?) How much effort is required to take the output from the recognition engine and perform the necessary manual cleanup?

Summary

There are many dimensions to evaluating OCR software. First, you need a good range of document images that represent different real-world situations and have enough characters to allow you to spot consistently strong performing software. Next, you need to watch the total output (which is the recognition accuracy, the formatting and the identified errors). And finally, you should compare the combination of features and options provided by different applications – some are more intuitive, necessary or helpful than others.

One final consideration when evaluating OCR software packages is their relative value, or how they compare in terms of price vs. performance. Currently, there is a broad range of OCR software prices, from $99 to $1,000+. Each of the OCR packages should be evaluated on how well the price reflects the feature set and capabilities of the software ❑

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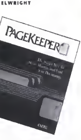
DOCUMENT MANAGEMENT

Caere's PageKeeper
Document Management Comes To The Desktop

BY GEOF WHEELWRIGHT

Product:	Caere PageKeeper For Windows 1.0
From:	Caere Corp. 962 Briar Hill Ave. Toronto, ON M6B 1M3 Ph 416-784-0245
Needs:	486-33 PC recommended 8MB RAM recommended, Windows 3.1 scanner
Price:	C$798



Caere PageKeeper is one of a number of reasonably priced desktop document management systems that operate on personal computers. PageKeeper comes from a company with wide experience in the PC scanning and optical character recognition markets, but is the company's first entry into the document management market. PageKeeper provides scanning support and optical character recognition functions which allow you to "tie" the content of a document to the image of that document. This allows keyword searches of the document's content.

When you start setting up the scanner configuration within PageKeeper, the first thing that quickly becomes apparent is just how much Caere expects of its users' scanning equipment. To start with, there is no specific support for anything but flatbed and multi page scanners. Handheld scanners such as the Logitech Scanman and even Caere's own Typist scanner don't get a look in.

It is fair to say that you can still use a hand scanner to scan documents using whatever bundled software comes with the scanner and then store and OCR the resultant file with PageKeeper. However, that is a somewhat long winded way of doing things. Also, Caere promises that any scanner which comes with Windows 3.1 specific drivers can be used from within PageKeeper so the scanner compatibility question is not likely to be a long-term issue.

Once you've got PageKeeper talking to your scanner, you will be pleasantly surprised at the level of control Caere offers you over the scanner from within PageKeeper. If you've got the time and scanning equipment to do it, you can scan in a whole stack of papers in one automated session using the "batch" document processing features of PageKeeper. It can handle up to 200 pages in a single scanned document file. PageKeeper is equipped to handle single-sheet, multiple-sheet and multiple double-sided sheet scanners.

You can also adjust the brightness of the scanner — thereby providing some way of compensating for a slightly poor original document and adjust the scanning mode for portrait or landscape orientation of the page, as well as its physical size.

PageKeeper supports OCR from PCX and DCX (popularly used in faxes received with PC fax cards) file formats, not just the more common TIFF format.

There is also a spell-checker included within the recognition tools so that you can keep a close eye on the accuracy of the recognition as you carry it out. In addition, you can specify which "zones" within a document you want to OCR (e.g. you may want the contents of a magazine article but not the advertisements surrounding it).

PageKeeper demands powerful hardware but provides good network support. Caere recommends you use a 33 MHz 486 with 8MB of RAM (and at least a 10MB swap file on your hard disk if you have less than 16 MB of RAM). PageKeeper also takes up 8 MB of hard disk space (and that's without creating a single new index of your own).

PageKeeper indexes existing files on both your local hard disk and network drives, and the resulting index includes all the words in the files, not just any keywords you have pulled out of them for indexing. You can also share a PageKeeper database on a network, sending and receiving documents, mail messages and annotations to and from the other users of that database.

The other PageKeeper function that's particularly useful over a network is document "agenting," whereby you get PageKeeper to analyze the content of one document and then get it to go off and find other documents with a similar content.

PageKeeper will also install directly over a network. Version 1.1 is compatible with Windows for Workgroups, and supports MAPI based E mail systems. Faxing can be accomplished directly from within the program. PageKeeper naturally supports Caere's Faxmaster, as well as fax software from other companies. ❑

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DOCUMENT MANAGEMENT

A Job For DocMan

BY GEOF WHEELWRIGHT

Have you ever found yourself scrambling for a file when customers call up and want to know how their orders are progressing?

Whether you work in an insurance company, a bank, a hospital, or even a retail operation, chances are that you spend a significant proportion of your working life handling pieces of paper.

Each contains information vital to the smooth running of your business. Finding that information quickly, however, is not easy. The basic problem today is that the information you need is generally held on paper or — if you've been progressive — on a microfiche or microfilm system. It means that there is only likely to be one up-to-date copy of the information in one place at any one time, and that means that only one person can be working with it at any given moment.

And if it's sitting in an out-tray waiting to move from one desk to another – or in that invisible corporate loop known as 'internal mail' - who knows when it will get to someone who can take action on it.

Keep The Customer Happy

But most businesses and organizations can ill-afford the unproductive time created by inefficient management of information. Insurance adjusters cannot force people who have lost their personal effects to wait for weeks while they pull together the necessary information to process a claim.

Banks and trust companies, meanwhile, need to be able to process mortgage forms quickly and efficiently or customers will go elsewhere to borrow money.

One solution to the urgent problem of how best to manage your records lies in the use of digital imaging, optical character recognition (OCR) and document management technologies. Digital imaging involves the use of computer technology to take electronic 'photos' of all your paper documents and store them as digital images on optical disc for later retrieval to your screen. OCR allows your computer to "read" the information in the documents and turn it into a word processed file for editing, while document management technologies tie the original image and the OCR file together so that the documents can be retrieved and managed more effectively.

By storing your paper information digitally, within seconds your computer can find a single document within a corporate filing system that could hold several hundred thousand documents. Digital imaging systems allow simultaneous multiple access to an image database, and as a result, the information retrieved is always timely and accurate.

Traditional paper record systems have long been great wasters of both space and time. At the offices of one corporate user we heard about, five large storage rooms were set aside to store financial records. Using digital imaging, document management and OCR, the company was able to transfer the records to a mere 64 laser discs, which are then stored in a juke box for immediate retrieval. The records are no longer strewn over a huge site and can be accessed quickly and shared by multiple users. Many corporations face the same problem. At a time when all businesses are looking for ways to cut costs, it seems absurd to waste lots of expensive office space just to store paper.

You may think that computers are ubiquitous throughout your company and you already have control of your information-related work. But the fact is that only about five per cent of the business information in a given organization is actually held on computer systems. The remaining 95 per cent is still processed on paper.

Digital imaging represents a key tool in any drive to take control of this work. Once your information is held as a digital image, rather than a piece of paper, copies of it can be passed around site-wide and even wide area networks (WANs) in seconds without losing the 'original'. You can even use this technology to re-allocate information processing from one overworked department to another. Using digital imaging, workflow management finally enters the 1990s.

The decision to use digital imaging technology on your office computer system doesn't mean that you have to give up on your existing computer installation. The range of configurations available from a wide variety of suppliers allow you to take an open systems approach. Not only will such systems operate with industry-standard

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486DX2/66 Average¹	592.7	9.50	861	49.5
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¹Refers to Ziff-Davis PC Graphics performance benchmarks under Windows. From PC magazine 12/7/93. Ambra results independently tested 3/31/94.

A Job for DocMan

Continued from page ***76***

IBM-compatible personal computers (PCs with Intel 386 processors or better are recommended) but they also offer the option of communicating with Unix based mini computers RISC architecture machines and mixed environment networks

For years a paper free office has been the goal for the world s technology companies. Most efforts were dismal failures Lack of flexibility, slow and inefficient computer systems and understandable user resistance combined to make this an idea whose time had not yet come

Since then times have changed and the advent of optical storage and powerful desktop computers now make this a realistic objective. Apart from the gains in productivity and reduction in costs that you might experience with digital imaging, you will also find that is an environmentally responsible approach to business.

Rather than using huge amounts of unnecessary paper to duplicate documents to pass around your company digital imaging allows you to hold a single copy of a document or file as a digital image and then make that available on a computer screen to anyone who needs it Only one copy of the document ever needs to exist - and even that won't use up any paper

So from any perspective you might wish to consider your record management issues, OCR, digital imaging and document management technologies offer a strategic approach that will improve productivity decrease costs increase efficiency make for happier conditions in the workplace and help the environment It isn't often you get the opportunity to make a business decision that offers even one of these benefits never mind several at once ❑

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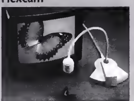

Digital cameras for computers have been out for a while, but Videolabs has added a whole new twist The camera is mounted on a flexible gooseneck, making it easy to mount and aim. The unit's unique design allows it to be used for video conferencing, or bend over to scan documents objects or images.

The included board combines full-motion video capture capabilities as well as VCR inputs. It can also handle two digital cameras simultaneously The camera itself uses a colour CCD at a resolution of 510 X 492 pixels. Software controls for Windows allow the adjusting of the 50:1 magnification, image size bright ness controls and audio or video mote The camera head has two microphones which can be fed through to a third party sound board US$695 each.

Also available is Videoplex, a two-user "broadcast quality" video conferencing system It can transmit bi-directional live video and audio over normal twisted pair cable at distances of up to 3,000 feet The system also accepts standard NTSC and PAL inputs. US$695 a pair

Video Labs 612-897 1995.

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Microsoft Promotes Computer Learning for Children

Microsoft Canada has instituted KidReach, a program designed to provide software and grants towards the purchase of computer equipment to charitable organizations working with young people. It will have an annual budget of $250 000.

Microsoft will donate copies of their software for uses ranging from publishing newsletters, creating graphics and presentations, and facilitating study and research. Recipients of this program will also be able to apply for a $1 000 cash donation towards computer hardware.

The program was announced at the Kensington Youth Theatre and Employment Skills centre in Toronto, an organization that works with street youths. This organization and many others across Canada are expected to receive the benefits of this project shortly. In addition, volunteer Microsoft Canada employees will also be participating in the program to assist the recipient groups in getting the most out of their equipment.

In order to be eligible for the program, organizations will be required to have a charitable status and demonstrate that the equipment donated will be used in the learning and development of people 18 years old or younger. Priority will be given to children who may not otherwise have access to computers.

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The scanner portion of the scanner/printer unit operates at about 40 pages per minute, while the thermal printer is rated at four ppm.

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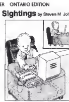

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what's **new**

Right-to-Die BBS Online

Yet another sign that on line culture has come of age is the establishment of Choice In Dying BBS the first BBS dedicated to such a topic in the United States Founded by Choice In Dying, a 150 000-member not for profit organization their BBS reflects the organization s interest in right-to-die issues

The BBS has current information on such topics as living wills, the legal distinctions relating to active and passive euthanasia, as well as both pending and current American legislation pertinent to right to-die matters

Contact: Choice in Dying BBS (212) 727-8210

Spray-On Computer Protector

Over time, many electronic circuit boards and computer motherboards will feel the damaging effects of moisture, static and corrosion on their components. Circuit Guard, a spray on application originally designed for the aerospace industry to protect sensitive electronics from exposure to harsh environments, will soon be available in computer stores

Circuit Guard works by forming a protective barrier around electronic components, neutralizing particles in the air that can lead to corrosion. It also safely discharges harmful static electricity, and can reduce the noise from the fan in a computer's power supply The spray is safe to use on circuit boards, is non-toxic, and will not irritate skin or eyes.

Circuit Guard will be available in 80g aerosol spray cans for $19 95 in selected computer stores later this summer, or can be ordered directly from the manufacturer.

Contact: Circuit Guard International 1 800-358-5030
Internet CIRCUITGUARD@DELPHI COM

Unisys Invests in New Brunswick's Info Highway Plan

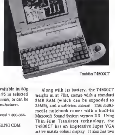
Unisys Canada, a major provider of information technology services and technology, has announced that it will invest $2.5 million into the New Brunswick government's Information Highway plan. The bulk of this money will go towards the installation of a computer server in Marysville Place the province s computer centre This computer server's main role will be to help develop software for use in New Brunswick s Information Highway Project.

Unisys has also announced the creation of a dozen jobs for information professionals at a new application development centre in Fredericton. They will work alongside the existing Unisys CASE Centre for Excellence to develop and promote new software designed for Unisys clients.

Contact: Unisys Canada, Fredericton (506) 461 8260

Toshiba Launches Fast New Notebooks

Toshiba of Canada has added the T4800CT to its line of notebook computers, utilizing Intel's new SL486DX4 microprocessors running at a speedy 75MHz. It is designed for those who need the fast processing power and a colour graphic display for multimedia in a notebook computer



Toshiba T4800CT

Along with its battery, the T4800CT weighs in at 7lbs, comes with a standard 8MB RAM (which can be expanded to 24MB), and a cableless mouse This multimedia notebook comes with a built-in Microsoft Sound System version 2 0 Using Thin Film Transistor technology, the T4800CT has an impressive Super VGA active matrix colour display It also has two PCMCIA 2.01 expansion slots suitable for PCMCIA fax/modems network connections and other interface connections. It manages to pack these features together in a relatively small package that measures 12" x 8" x 2"

The T4800CT comes in two models one with a 320MB hard drive priced at $9 399 while the same model with a 500MB hard drive is priced at $9,999

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newsbytes EXCLUSIVE NEWS

The Ultimate Copy Protection Scheme

When officials in the Peoples Republic of China (PRC) decide to do something, they don't fool around.

Apparently PRC authorities want the US government to grant it continued Most Favored Nation (MFN) special trade status and have promised skeptical US companies that they will jail or even execute copyright and trademark pirates

The PRC news agency Xinhua reports that Li Bida, deputy director of the trademark office of the State Administration for Industry and Commerce said that violators of trademark laws face harsh penalties of up to life imprisonment and the death sentence

Canadian Computer Show Cancelled

What was for many years Canada's principal computer show has been cancelled this year The Canadian Computer Show would have celebrated its 25th anniversary this fall.

Ross Horton manager of computer shows for Industrial Trade and Consumer Shows (ITCS) in Toronto told Newsbytes the computer industry just was not showing enough interest in the Toronto-based show this year and ITCS decided it would be "better to make the decision now"

Horton blamed a weak economy and increased competition for the show's demise A major factor was undoubtedly the launch last year of COMDEX/Canada a spinoff of the mammoth event held each fall in Las Vegas and each spring in Atlanta

Contact Industrial Trade and Consumer Shows 416-252-7791 fax 416-252-9848

Dell Recalls Monitors

Dell Computer is recalling approximately 63 000 color monitors due to the possibility of the units catching fire.

Dell told Newsbytes the recall applies only to the Model DL-1460NI 14-inch Super VGA color monitors. The display units were sold direct by Dell and through retailers in the US and Canada

Readers who have this monitor should immediately unplug the monitor and contact Dell at 800-913-3355 between the hours of 9AM and 9PM Eastern Time Monday through Friday and 11AM to 3PM Eastern Time on Saturday

Contact: 800-913-3355 to arrange repair via phone or 512 728-8528 for repair via Dell's bulletin board

Free-Net Formed in Halifax

The Chebucto Free Net should be up and running by the time you read this. says David Trueman, a member of its board of directors

Free-nets are like bulletin boards but do not charge for access and are non-profit operations supported largely by donations of money and equipment They are meant to provide access to information The first free-net opened in Cleveland in 1986 Canada has free-nets in Victoria and Trail BC and in Ottawa Several others are in the organizing stages.

The steering committee for the Halifax operation was set up last September, Trueman told Newsbytes. Its board of directors includes representatives from Dalhousie University The Halifax public library, the Nova Scotia government, and private business.

Contact Chebucto Free-Net 902-425-2061 Internet ele@cs.dal ca

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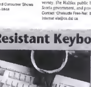

CARROLLTON, TX (NB) — If your computer keyboard has ever suffered the ravages of spilled beverages or dropped crumbs, you'll probably be glad to know that a Texas company has introduced a keyboard designed to protect the board's working parts

Identity Systems Technology has introduced its IDKB101-SR keyboard a unit that features a moisture-proof membrane beneath the keys to keep the underlying mechanism safe

According to the company If you've never experienced the results of a spilled drink or breadcrumbs in the keyboard as you eat while you rush to complete that last minute project, you are very fortunate. PC system administrators and consultants report that it's a common problem

The company claims that the company's new keyboard is an improvement over the soft molded plastic covers already available to protect keyboards The US$39.95 unit comes with a PS/2 adapter and attached to meet notebook computers equipped with an external keyboard port

Contact: Identity Systems Technology, 213-323-4600 or 800 723-8258, fax 214-323-0666

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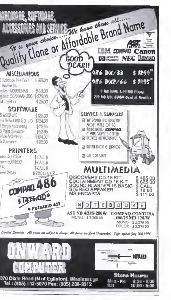

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what's **new**

Pentium Portable Arrives

Ottawa based EuroPak International has released what it claims is the world's first Pentium-based notebook PC. The Eurocom 3600 uses two fans to keep the Intel 66 MHz Pentium processor from overheating The unit is slightly larger (11.3 x 10.5 x 2.4 inches) and slightly heavier (8 lb.) than the typical notebook computer — power has its price

Standard on the 3600 are 8MB of RAM, 210MB hard drive NiCd battery and two PCMCIA slots a Type II and a Type III. On board is 1MB of video RAM to help the built in Cirrus Logic GL6440 video accelerator chipset do its chores Both VGA graphics and the hard drive work through a 32 bit local bus architecture, says the company

The computer is available only with color screens A 10.5 inch passive matrix color screen is standard while a 9 5-inch active matrix color screen is optional Either screen will display 256 colors at 640 by 480 resolution The graphics system will support 256 colors at resoutions of up to 1024 by 768 through an external monitor.

Options include an internal 16-bit stereo sound card Nickel Metal hydride battery and docking station

Suggested retail price for the basic configuration is $7,100.

Contact Impaq 1-800-663-8272

Information Highway Project Aimed at Doctors

Mentor Networks has announced a pilot project for "on demand" interactive multimedia education aimed at training physicians Done in conjunction with Stentor, the alliance of Canada's major telephone companies, Mentor hopes to demonstrate the educational potential of an "information highway"

The pilot program is being conducted at the Royal College of Physicians and Surgeons of Canada at the Ottawa Civic Hospital with the cooperation of the University of Ottawa A trial course on diagnosing and managing emergency situations involving chest pains has been written by specialists in this field. Using PCs, the doctors will be able to access and interact with simulated case studies made all the more real by a combination of full motion video, clinical images, text, and audio Stentor's contribution to the project is their Asymmetric Digital Subscriber Line system, designed to deliver multimedia applications over regular phone lines.

Mentor hopes that the feedback it will get from the physicians participating in the project will help it develop better educational software for the information highway in the near future.

Contact. Mentor Networks Inc (416) 861 1933

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Addendum: Last Month's Cover

The "info surfer" image on last issue's cover was created and rendered by Kent Barrett Here, in Kent's words is a description of how it was done

The challenge was to create an image of an "info surfer" I had as models several stock shots of real surfers in a variety of poses and wave conditions The images came from the Ocean Imagery CD ROM by Gazelle Technologies (619-636-9999)

Four and a half programs were used to create the image of the information wave First, I used Adobe Illustrator to draw some curved shapes, producing a series of "cross sections" of the wave I wanted to produce Next the shapes were imported as eps files into Strata Studio Pro where they were assembled as "ribs", over which a covering was "skinned" The process resembles the building of a boat Once that was completed the wave object was saved as a DXF polyline mesh A second wave object slightly smaller and altered to fit inside the first, was created in the same fashion.

Next, I used Adobe Photoshop and Kai's Power Tools (which I consider half a program because it runs as a bolt-on to Photoshop) to produce the watery pattern that was to be applied to the "inside" wave in the final image Photoshop was also used to produce a page of 1's and 0's to be applied to the "outer wave" The 1's and 0's were colorized with the Power Tools, and the background was set to black so it would disappear in the final rendering

To render the waves, the DXF shapes were imported into Specular's Infini D where they were arranged and lit to resemble the view in the original photo At this time the patterns from Photoshop were applied to the DXF files The black in the 1's and 0's image was rendered completely transparent and the result is what you see a pattern of 1's and 0's in the shape of a wave with the shadows falling on the wave beneath it. The completed setup was raytraced on a Quadra 700 and took 5 *days* to render!

When it was finally finished the rendered wave image was imported back into Photoshop The surfer was then stripped from the original photo and composited into place in front of the rendered waves Finally, the sky and water areas of the image were painted in and a shadow was added to give a better feeling of depth to the surfer and voilà "Surfer DooOOood" ❑

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386 Packard $3200 includes software + 3 music + sound card printer Epson $385. Other software neg. 416-242-7591

386DX25, 2mb Ram, 40mb hd, vga 1.2 & 1.44 floppies color scan mouse keyboard. $500 Call Pete after 5pm 905-457-5788.

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386DX33 4m RAM 130HDM SVGA 14" (NI) 9600 Fax Modem WIN3.1 WP 6.0 $1000 and Tony 905-318-3233.

386DX40 Motherboard $90 obo. 1.2m & 1.4M floppies $30 each Call 905-634-2541

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386SX 80mb HD 2MB Ram dual HD floppy VGA on 8MB $495, 286-12 20mb hd 640K Ram 14" mono $236. Rob 416-368-6309

386SX16 sans $120 obo. Call Mehdi 361-1980

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Continued on page 87

CALENDAR OF EVENTS

JULY

COMDEX Canada July 13-15 Metro Toronto Convention Centre Toronto. Contact The Interface Group at 617-444-3322 or 617-449-6600 ext. 4904

SEPTEMBER

SIMCOE BUSINESS & COMPUTER EXPO. Sept 7-8 Barrie Curling Club. Contact Pro-Power Promotions 705-721-4433

ATLANTIC CANADA COMPUTER SHOW Sept 14-15 Halifax, Nova Scotia. Contact ITCS 416-252 7791

THE CANADIAN HIGH TECH SHOW Sept 20-21 Toronto. Contact Reed Exhibitions 416-491 7565.

SOFTWORLD'94 Sept 25-28 Fredericton N.B. Contact Ray Harpell 506-453-1078

NETCON Sept 28-29 Toronto. Contact Plesman Expositions 416-497 9562

OTTAWA BUSINESS & GOVERNMENT COMPUTER SHOW Sept 28-29 Ottawa. Contact ITCS 613-241 2058

OCTOBER

MACWORLD EXPO Oct 18-20 '94 Toronto. Contact Mitch Hall Associates. Tel 617-361-3389 or Fax 617-361-3389

INTERNATIONAL

PC Expo June 28-30, New York. For more information call Blenheim Inc. at (201) 346-1400.

SUNWORLD/Tokyo, July 6-8 1994. SunWorld Expo/Tokyo will continue its growth with approximately an extensive conference and exposition featuring 50,000 attendees and 200 exhibitors. SunWorld Expo/Tokyo '94 will also include a special simulation studio at the SPARC experiencing corner. Contact Jackie Murphy at IDG World Expo at 800-225-4698 or 508-879-6700.

UNIX WORLD/MEXICO CITY July 19-21 USA Trade Centre, Mexico City. Contact Matt Mandano at IDG World Expo 1-800-546-3976 or 508 820-8624

OBJECT WORLD/San Francisco July 26-29 1994. Object World/San Francisco is part of the World's largest all object technology (OT) series of events. This conference and three-day exposition is organized by the Object Management group (OMG) and IDG World Expo and focuses on the commercial and practical aspects of object technology

SIGGRAPH - Multimedia Orlando FL 24-29 July '94 Contact: Half Erickson, (708) 450-7843

MACWORLD Expo/Boston August 2-5 Bayside Expo & World Trade Centre Boston. Contact: Mitch Hall & Associates 617 361 3001

GROUPWARE SAN JOSE 94 8-11 Aug '94 San Jose CA. Contact: The Conference Group 602-661 1256

MACSHOW 21-23 Aug '94 Chicago Il. Contact: The Show Management Company (807 9111

INTERACTIVE MULTIMEDIA 94 24-26 Aug '94 Washington DC. Contact: Contadh 703-347 1055

EUROPEAN COMPUTER TRADE SHOW Fall London, England September 4-6 '94 Contact: Blenheim Online Tel 081 742 2828 or Fax 081-742-3182.

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ANIMATORS GROUP — Interested in the creation of 2-D and 3-D animation? Zim graphics Ltd. offers hands-on training and memberships for those interested in computer graphics. For more information call (416) 929-8155

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CANADIAN COMPUTER GRAPHICS ASSOCIATION — CCGA's mission is "to provide education and information in computer graphics technology and its applications." Additional benefits include insurance, newsletters, subscriptions, employment liaison office and annual art & design competition. CCGA 2175 Sheppard Ave. E. Suite 110 Willowdale Ontario M2J 1W8 Fax: 491 0070. Tel. 491 2886

CANAM COMPUTER CLUB for serious computer hobbyists. Breakfast meetings are held every Saturday morning at Obies Restaurant in Warden Woods Mall Scarboro. The Club has a sister group in the U.S. with whom info, ideas and help are exchanged. Membership is free but a full breakfast is $5.41 including gratuity. For info call Cy Leonard at 297-0318.

CASE — Computer Aided Software Engineering is open to anyone interested in being tool and technology independent. 1-1 1/2 hours, monthly scheduled meetings. Vendor presentations as well as individual. BBS 497 5263, (reg on it MIS Affiliat. messages into Tech 2nd category called CASE). Contact Joe De Silva at 252-1409 or Rob Beeleman at 968-2984

CLIPPER DEVELOPERS ASSOCIATION OF TORONTO. For details call Mike Parente 905-336-5181 ext. 447

CLUB CUBASE — meets at 7:30 pm on the last Monday of every month in Room C420 at the Casa Loma Campus of George Brown College, 160 Kendal Ave. For more information contact Club Cubase at 62 Hatmouth Drive, Willowdale ON M2H 3C2 or call 496-9905

CLUB MAC COMPUTER GROUP OF ONTARIO — All Mac users. Macintosh OS & related issues meets 2nd Tuesday McKinnon Institute 222 St. Patrick St. Toronto. 7 pm to 10 pm, infoline 482-1792.

COMPUTER TRAINERS NETWORK — meets the first Thursday of every month to discuss issues related to PC's & training. Each meeting includes a presentation on relevant topic. Location, the CBC Building, 25 John Street. Call Lynn at 362-9815 for further details

CYBERPUNK RESEARCH LABORATORIES — Merry hackers in search of picturesque mountains, RAM and fairytales. For further data write c/o CyberPunk Research Labs, Seneca College of Communication Arts, 1124 Finch Ave. West, North York ON M3J 3R6

INTERNATIONAL PROGRAMMERS GUILD. Meets every second month starting at 7:00 pm on Tuesday Nights in downtown Toronto at the Graf Bobby, 30 Wellington East Toronto. Programmers who are not members are also welcome to attend. Ask at the front desk for the Programmers Guild. Next meeting: May 24th. For more information 1994 meeting schedule or a free copy of the latest newsletter call the IPG at 905-824 2947

INTERNET USER GROUP now forming. Daniel O'Connell 416-366-7895 or Dan @ Grant.Yorku.ca

KW-MUG — 379 Peel Street, New Hamburg, ON N0B 2G0 (519) 662-2827 Focus, Public domain distribution, reviews of current software, meetings variable, no fees.

LOGIC — functions by Meetings 1st (Macintosh) & 3rd (Apple II) Tuesday of the month. North Toronto Memorial Community Centre, 200 Eglinton Ave West at 7:00pm. Messages 416 323-0828, BBS 416-487-5771 FAX 905-737-0158

METRO TORONTO ADAM GROUP (MTAG) — Supporting ADAM CP/M-TDOS Users contact: (416) 424 1052 or write to P.O. box 165 300 Adelaide St. E. Toronto, ON, M5A 1N0. Meetings 2nd Monday of each month 1435 Albion Rd (Community Centre) and 4th Sat each month at the Pape Ave. Community Centre. $1 Monthly newsletter

MISSISSAUGA COMPUTER CLUB. Meets on first Wednesday of every month at 8pm at the Bramhamthorpe community Centre located at 1501 Collinson Dr. in Mississauga. For online info call and support BBS at (905) 568-5294 or (905) 568-2498

NORTH AMERICAN DESKTOP — A computer users group for PC and Apple. Use full, constructive exchange of ideas, bulletin services and information through presentations, discussions and networking at an affordable price. $1 monthly. For more information call (905) 845-5311

PCCT (PERSONAL COMPUTER CLUB OF TORONTO) — PC users 3rd Tuesday St. Gabriel's Community Centre 672 Sheppard Ave. E. (2 blocks East of Bayview North side) North York. 7:00 pm membership includes andreware, BBS, special interest groups (SIGs) & workshops. Information (416) 244-6786.

TAF TORONTO ATARI FEDERATION XE/ST/Falcon computers. 300 members. BBS Newsletter SIGS for MIDI DTP General and more. Meets 7:30pm Third Thursday of month in North York Memorial Community Hall in the N.Y. City Centre Library Building, 5110 Yonge St. at Park Home. BBS (300-19.2) 235-0318, InfoLine (416) 22 55-823 CALL TAF

THE CANADIAN AUTODESK MULTIMEDIA USER GROUP — Interested Users of Autodesk Multimedia products are invited to call Pia Zimpeh at (416) 920-8152

THE CANADIAN INFORMATION PROCESSING SOCIETY. For further information call Rick/Penton 519-1 437

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THE DURHAM P.C. USERS' CLUB. Meetings on second Thursday of each month at 7:30 pm (free admission). Meetings held at CAW Local 222 Hall, 1425 Phillip Murray Ave. Oshawa. Contact Linda Holden 905-623-2787 or Bruce Laycraft at 905-728-9351

THE ELITE GROUP OF 3-D PROGRAMMERS — (E.G.3D P.) in association with L.T.P.G. Dedicated to Atari users. For more information write to L.T.P.G. c/o (E.G.3D P.) 37 Mcintyre Ave. Box #2 Toronto Ontario M6S 2R8

THE INTERNATIONAL INTERACTIVE COMMUNICATION SOCIETY (IICS) is a non-profit professional organization dedicated to the advancement of interactive and multimedia technologies. Through monthly meetings, newsletters and networking IICS members are able to keep up-to-date in this growing field. Membership is $90/yr. For more information call Peter Richardson 416-286-0650 or fax 285-4306

THE TORONTO COLOUR COMPUTER GROUP — meets on the 2nd and 4th Mondays of each month. For more information, call Larry Osborne at (416) 872 1809

THE TORONTO GUPTA USERS GROUP (TGUG) Meetings held in Feb, Apr, June, Sept, Nov each year. Contact Terry Lewis at 416-609-6566 X939 or 416-609-0913 (fax) for more info. Corp membership fee: $50/yr (up to 3 employees). Single membership: $25/yr

TIMEX-SINCLAIR USERS CLUB — All Timex and Sinclair Computers. 1st Wednesday of the month. 14 Richome Court, Scarborough ON M1K 2Y1 7:30 pm. Demonstrations, bi-monthly newsletter. Voice info (416) 751-7559

TORCHI (Toronto Region Computer Human Interaction) — Meets every second Wednesday of the month from 7:00 pm-10:00 pm. For more information re speakers, topics and membership. We are the local analyst of Sigchi, part of ACM. Call M Brehau (416) 449-2087

TORONTO APL SIG — An educational and social organization concerned with the use and promotion of APL computer language. 4th Monday of each month at 6:30 pm (excluding the Summer) at BCE Place, 181 Bay Street, 10th Floor. Or write: Toronto APL SIG, Box 384 Adelaide Street P.O. Toronto Ont. M5C 2J5. Contact Ron Bert (416) 864-3193.

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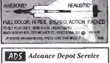

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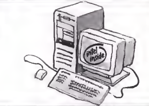

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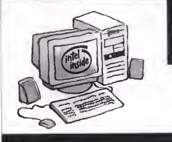

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